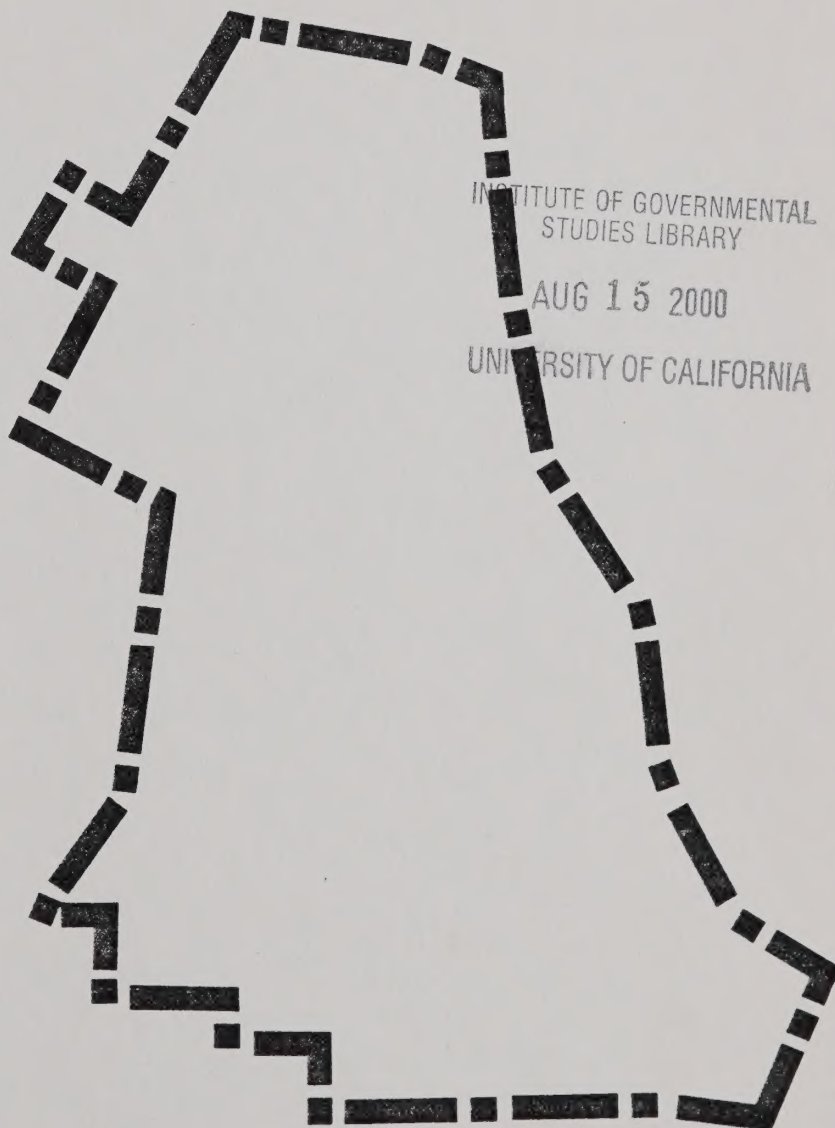


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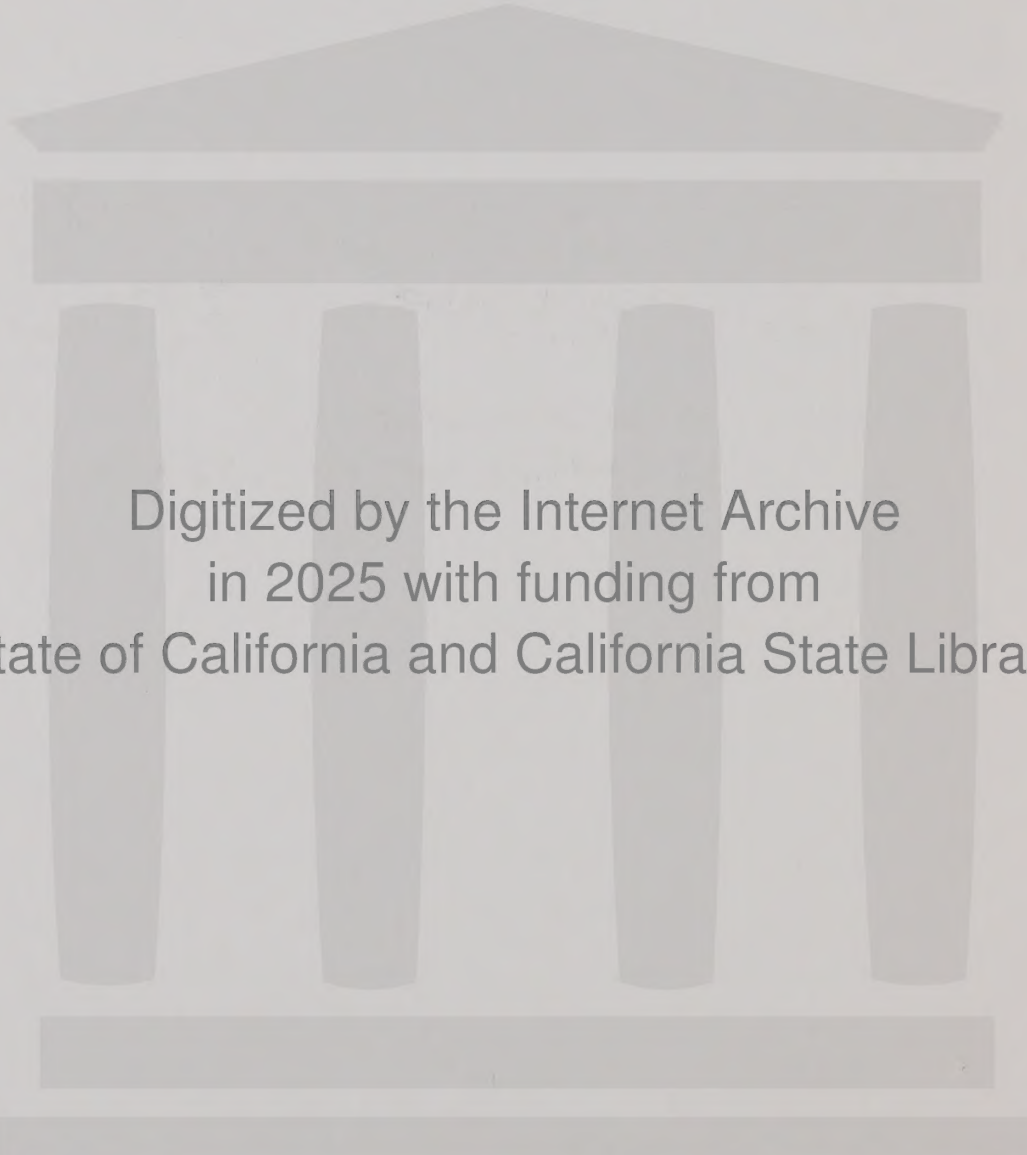
2 GUADALUPE WEST PLANNING STUDY

Detailed Assessment
of Development Alternatives



City of Santa Clara, California

SEDWAY/COOKE
AND ASSOCIATED CONSULTANTS



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2 GUADALUPE WEST PLANNING STUDY

Detailed Assessment of Development Alternatives

Prepared for

THE CITY OF SANTA CLARA

Prepared By

SEDWAY/COOKE

Urban and Environmental Planners and Designers

In Association with

ECONOMIC RESEARCH ASSOCIATES

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July 15, 1981

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I. INTRODUCTION

This is the second report prepared as part of the Guadalupe West Study undertaken by the City of Santa Clara. The Guadalupe West Study presents the first step in the development of a land use plan for a 1433 acre site in the northeastern corner of the city. The Study Area lies north of the Montague Expressway, south of Highway 237, east of the San Tomas Creek and Great America Parkway, and west of the Guadalupe River. The Study Area is located three miles from downtown Santa Clara and four miles from downtown San Jose. It is located beneath the flight pattern of take offs from the San Jose Airport and is bisected from east to west by the proposed Guadalupe Corridor transit route which would run from southern Santa Clara County to the junction of Tasman Drive and Great America Parkway on the western border of the Study Area. Forty percent of the undeveloped land in the Study Area is designated or has already been used by the City of Santa Clara as landfill sites for solid waste disposal.

This report was preceded by the Preliminary Assessment which evaluated physical characteristics, market conditions and planning and regulatory policies relevant to development of the area. It is accompanied by Volume 3 which is a confidential report entitled, "Economic Evaluation of Alternative Development Programs," and by Volume 4, "Traffic Analysis."

The purpose of this report is to assist the City in the selection of a land-use development plan. It identifies a development strategy and a series of alternative land-use plans. The land-use alternatives are described with respect to on-site improvements as well as prerequisite off-site improvements. The various development plans are then evaluated in terms of their relative costs and benefits to the City.

Development Sites

Almost half of the total Study Area - or 683 out of 1433 acres - is undeveloped. Figure 1 locates potential development sites and the land area available for development. It also indicates that 123 acres are located on landfill and that another 142 acres are designated as future landfill sites and will be evaluated as such in this report. An additional 16 acre parcel south of the existing landfill is also designated as a future landfill site by the City; however, it is recommended that this site not be used for landfill due to its proximity to the proposed transit corridor and resulting development potential.

Table 1 describes the development sites in terms of: 1.) their location within the Study Area according to subarea (see

TABLE I
SUMMARY OF DEVELOPMENT SITES

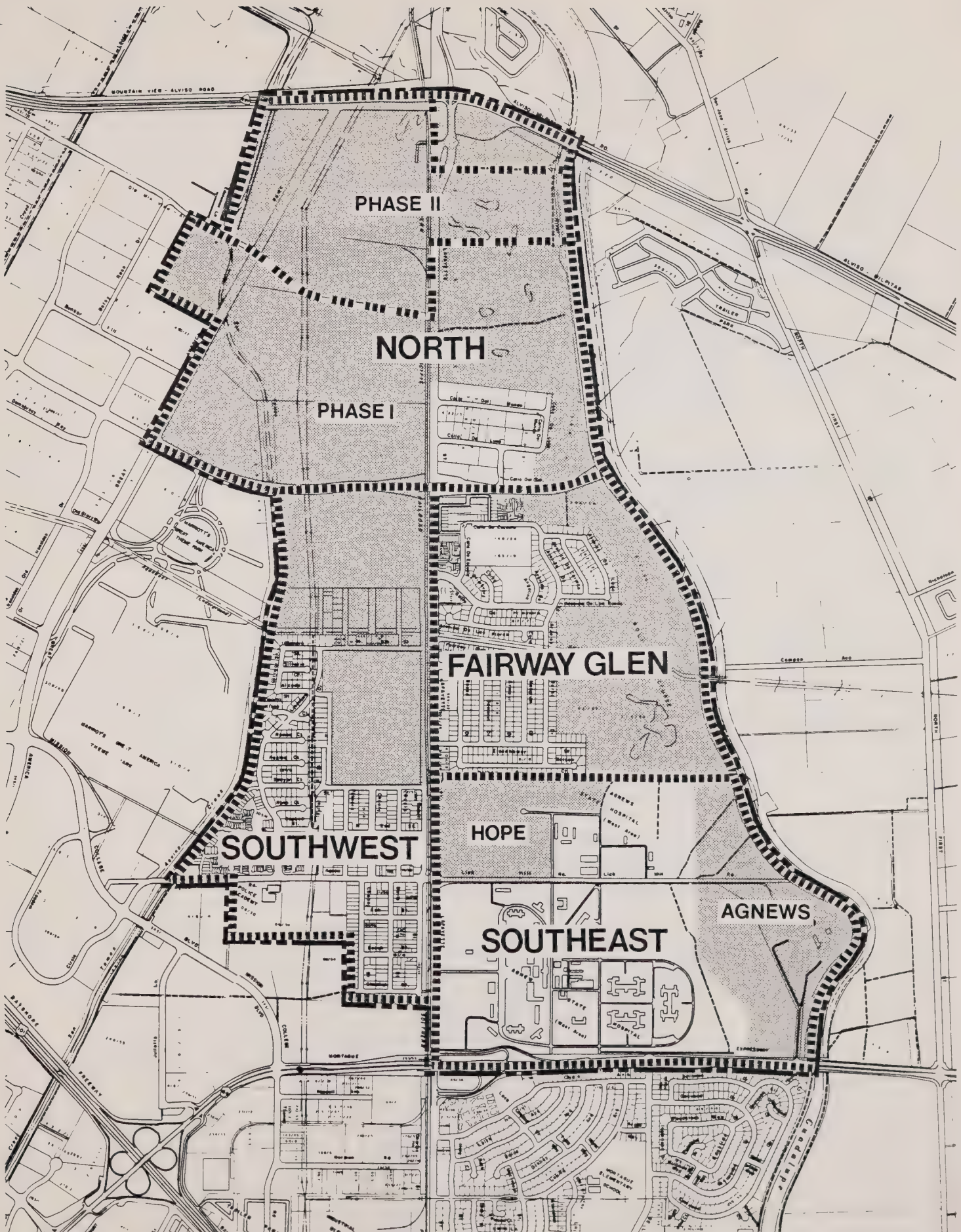
	<u>Ownership</u>	<u>Net Acreage (Parcels Only)</u>	<u>CNEL Zone</u>
NORTH PHASE I	City	88	less than 65
		85	65-70
	Private	13	less than 65
Subtotal		<u>186</u>	
NORTH PHASE II	City	142	less than 65
SOUTHWEST	City	61.5	65-70
	Private	46	65-70
Subtotal		<u>107.5</u>	
FAIRWAY GLEN	City	105	less than 65
SOUTHEAST	State-Hope site	45	65-70
	-housing site	70	less than 65
	Private	<u>27.5</u>	less than 65
Subtotal	142.5		
STUDY AREA TOTAL		683	

Figure 2); 2.) ownership; 3.) size; and 4.) noise level. Of the total developable land area 70 percent - or 482 acres - is owned by the City of Santa Clara, 21 percent - or 115 acres - is owned by the State of California, and 9 percent - or 59 acres is privately owned.

Thirty-five percent of the developable land area - or 237 acres - lies between the 65 and 70 CNEL noise contour projected for 1990. The 65 CNEL contour identifies the threshold above which special construction and/or design measures are required by the United States Department of Housing and Urban Development to reduce the interior noise level in buildings. Sixty-five percent - or 446 acres - lies outside of the 65 CNEL contour.

Planning Subareas

For planning purposes the site has been divided into the four subareas identified in Figure 2: North, Southwest, Fairway Glen and Southeast. The North Subarea is further subdivided into the Phase I area which can be developed in the immediate future and the Phase II development area which consists of designated landfill sites. Development of the Phase II area must be coordinated with the City's solid waste management program and therefore cannot proceed as soon as the Phase I development. In the following section of this report land-use plans will be discussed according to subarea.



PLANNING SUBAREAS

II. SUMMARY ASSESSMENT OF ALTERNATIVES

Purpose

The purpose of this report is to assist the City in the selection of a land-use development plan for the Guadalupe West Study Area. This area is comprised of 1433 acres of which 683 are presently undeveloped. 70% of the undeveloped area is owned by the City or in the Open Space reserve bought by the City Utility fund. 123 acres have been utilized by the City for sanitary landfill. An additional 142 acres are currently scheduled for future sanitary landfill. The report identifies a development strategy and a series of alternative land-use plans. The land-use alternatives are described with respect to on-site improvements. The various development plans are then evaluated in terms of their relative costs and benefits to the City.

Identifying Constraints

Critical to the development of the alternative land-use plans has been an evaluation of the constraints that affects the proposed land-use. These constraints involve:

1. The present use of a major portion of the study area as the sanitary landfill site for the City;
2. The current ambient noise level and projected increase due to the expected increase in air traffic from the nearby San Jose Municipal airport;
3. The present level of congestion on the major traffic arteries serving the vicinity, especially on Highway 237;
4. The need to provide basic on-site utility improvements to serve the proposed development; and
5. The limitations to development imposed by the lack of capacity in the regional wastewater treatment plant.

Creating Opportunities

Alternative land-use programs evolved out of a preliminary market analysis included in the Preliminary Assessment of the Study Area prepared in January 1981. The distribution of the alternative programs within the Study Area is in response chiefly to five major determinants that circumscribe the development opportunities.

1. Development should be phased so as to permit the continuation of the sanitary landfill operations while a long-term strategy can be developed to maintain waste management choices without compromising land development opportunities open to the City.
2. Development should be balanced between jobs and housing within the Study Area to reduce potential traffic with a reduction in average work trips generated.

3. Development should be concentrated along the proposed Guadalupe Transit Corridor route to permit the maximum feasible utilization of those potential transportation improvements.
4. Development should minimize the adverse effects of the ambient noise environment due to the air traffic. In order to meet HUD guidelines, residential development would have to be limited to areas outside the 65 CNEL contour unless special design and construction measures are taken to reduce interior noise levels.

To meet the prevailing community standards promulgated by HUD, new residential development should not be permitted in the Southwest Subarea or within the Phase I development of the North Subarea.

The City is presently pursuing an evaluation of the noise environment within the Study Area to determine if the maintenance of the HUD standards will be adequate to protect the health and safety of future residents in the Study Area.

5. The municipal golf course at Fairway Glen should be relocated to the already filled portion of the City landfill site. The relocation would permit sale of present site for approximately \$17 million (assuming residential development) of which \$2.4 million would be needed for the construction of the golf facility. This would result in a larger, better designed golf course, would make use of the filled lands which are generally unsuitable for general development purposes and would provide recreation and aesthetic features which would increase the marketability and economics of proposed hotel, convention and retail use.

Land Use Alternatives

The range of land-use alternatives that have been evaluated are shown in the following chart and the respective subareas identified in Figure 2:

<u>Subarea</u>	<u>Use</u>
PHASE I	
North	
- Alternative A	Sports Arena-Convention Center-Hotel
- Alternative B	Convention Center-Business Park-Hotel
- Alternative C	Business Park
Southwest	Business Park
Fairway Glen	Residential

<u>Subarea</u>	<u>Use</u>
Southeast	
- Hope Industries	Office-Industrial
- Agnew's Hospital	Residential
- Lick Mill	Residential
PHASE II	
North	
- Option 1	Mixed Use Office-Residential-Recreation
- Option 2	Business Park-Recreation
- Option 3	Recreation only

Economic Evaluation

The economic evaluation of the alternative development programs has analyzed the market, financial, and fiscal impacts under a number of scenarios. The scenarios assume different roles for the City and different financing mechanisms to pay for the improvements. The two potential City roles are: 1) as an active developer (by means of municipal bonding) of the public improvements in alternatives A and B; 2) as a passive partner in a land lease agreement with a developer to provide the public improvements along with private developments; and 3) as a passive partner in a land sale agreement with a developer to provide the public improvements.

Market Conclusions

- o The land use programs described in Phase I can be absorbed by the market by the year 2000.
- o The Phase II building construction options would not be absorbed by the market until approximately 2010.
- o To provide the strongest market support for the neighborhood retail development, the best location appears to be west of Lafayette in the Southwest Subarea. However, this location will require approval from the PUC to permit a street grade crossing to Lafayette of the S.P. Railroad.
- o The Hope Industries site appears to be the second strongest location for the neighborhood retail but will require approval from the State of California and Hope's Board of Trustees.
- o In the event neither of the first two locations can be successfully implemented, then a smaller convenience retail development could be located adjacent to the Guadalupe River on the Fairway Glen Subarea.

Financial and Fiscal Conclusions

- o All of the alternative land-use programs can be financially successful for the City. However, in Alternatives A and B for the North Subarea the City would have to commit \$29.0 million for construction of the arena and \$19.5 million for construction of the convention center while annual operating income from the facilities would be only \$559 thousand and \$126 thousand, respectively, if they elected to operate and manage. The City should therefore explore opportunities for private construction and operation of these facilities. This might entail providing some economic incentives, such as a write down of land cost or financing assistance.
- o There are potentially sufficient revenues from either a lease or sole option to support the public facilities in Alternatives A or B.
- o There are long-term benefits to the City to exercise a combination of sale and lease agreements that can optimize the public benefits while maintaining the greatest control and financial interest.
- o The selection of a land-use plan or development strategy will depend on the public's willingness to accept challenging and complicated programs with an end result of more public facilities.

Landfill Operations

Seven solid waste management choices were developed for maintaining disposal operations to the year 2040. The choices were developed to illustrate the interlocking decisions between land use in the Study Area and the requirements to construct a resource recovery facility and/or find a remote site to which to transport the solid waste stream.

Conclusions

- o The Phase I development program can be developed independently of the landfill operations in the Study Area without compromising the City's future land-use choices.
- o The building options for Phase II development at the northern extreme of the Study Area will not be possible unless the landfill operations are suitably coordinated to maintain development choices for the City.
- o The location of the proposed resource recovery facility is critical to the future land development options open the City for the northern extreme of the Study Area. In order to maintain those choices for the longest time, two alternative sites should remain in the selection and evaluation process—one on either side of Lafayette Street.

- o Any commitment to a land use decision for the Phase II portion of the Study Area should be postponed until a long-term solid waste management strategy is adopted.

Traffic Impacts

Highway 237 at the northern perimeter of the Study Area is already loaded beyond its capacity during peak morning and afternoon commute hours. Improvements to Highway 237 have been under consideration for a number of years but it is presently not on the Caltrans Freeway Construction Plan.

There is capacity, however, on the major circulation routes within the Study Area, i.e., Great America Parkway, Lafayette, and Tasman. The only major link that is missing in the area-wide circulation pattern, is the extension of Tasman Drive to North First Street in San Jose.

Conclusions

- o Inadequate capacity on Highway 237 remains a constraint on any development in the Study Area. While proposals are pending for the addition of HOV lanes to this right-of-way, funding is not yet guaranteed.
- o Expanding the 237 right-of-way to freeway capacity appears to be in the best means of providing the necessary capacity to support the land-use alternatives assessed in the study. Though the Phase I land-use impacts would be primarily confined to the 237 segment between North First Street and Highway 17, the rational approach to increasing capacity in the right-of-way is to complete the improvements along the entire section between Highway 17 and the Bayshore Freeway as adopted in the 1979 Santa Clara Valley Corridor Evaluation.
- o All three alternatives in Phase I land-use developments will require the completion of the Tasman crossing of the Guadalupe River and connection to North First Street.
- o No other major changes to the street network are required to accommodate any of the three Phase I alternatives.
- o Alternatives A will produce the fewest impacts on the traffic flow in the Study Area utilizing one full lane of peak hour capacity in each direction on Tasman Drive.
- o Alternative B will utilize two full lanes of peak hour capacity on the critical segment of Tasman Drive that crosses Lafayette Street on an existing bridge. To accommodate this loading would require a restriping of Tasman Drive to allow three free-moving lanes in each direction.

- o Alternative C will produce the greatest impact on the traffic flow in the Study Area utilizing two full lanes of peak hour capacity on the entire length of Tasman east of the proposed connection to the North Subarea development. To accommodate this loading would require the restriping of Tasman within Santa Clara to allow three free-moving lanes in each direction and the construction of a sufficient roadway in San Jose to allow for three lanes of traffic.
- o The remaining traffic impacts within the Study Area that will arise from Phase I development can be mitigated with the provision of turn lanes at critical intersections.
- o The restriping of Tasman Drive for alternatives B and C will have the secondary impact of requiring a new bridge structure across Lafayette for any new transportation improvements associated with the Guadalupe Transit Corridor.
- o The completion of the Tasman connection to North First will have the likely effect of diverting traffic off the impacted Highway 237 right-of-way through the Study Area until Highway 237 improvements are completed.
- o Vehicular traffic generated by Options 1 and 2 (either mixed office and residential or business park) of Phase II would have major adverse impacts on the areas circulation system unless there are drastic changes in transportation patterns and habits and major improvements in regional public transit facilities. Therefore no commitment to Option 1 or 2 development should be made for 10 years or until substantial completion of Phase I development.

Required On-Site Utility Improvements

The provision of on-site utility improvements are ordinarily the responsibility of the developer. The financial evaluation of the alternative land-use developments has shown that (except for the freeway construction costs of Highway 237) these on-site improvement costs can be carried by the individual projects. There are, however, a number of areawide improvements whose costs might reasonably be distributed over a larger area by means of an assessment district, tax increment financing, or some other municipal intervention.

Conclusion

- o The existing PG &E power lines should be relocated to increase the economic return on city and privately owned lands and to improve the visual appearance of the area. Relocation cost estimates range from \$1.5

million to \$3 million. This cost is offset by the addition of 2.5 acres of buildable land, an increase in available land for landfill of 25 acres (sufficient to accommodate 3.7 years) and visual enhancement of the San Tomas Creek corridor which will benefit both the general public and commercial land use proposed for this corridor.

Wastewater Treatment Capacity

The existing wastewater treatment facility owned and operated jointly by the City of Santa Clara and the City of San Jose is presently operating at capacity. Plans are in progress for modifications to the existing plant to raise the capacity from 130 to 143 MGD (to its original design capacity). In addition, plans are in preparation to add capacity to the facility in order to accommodate 160 MGD. At this larger size, the City of Santa Clara will be allocated a larger portion of the facilities capacity.

Conclusions

- o Any development in the Study Area will require an increase in capacity to 160 MGD.
- o The expected effluent from the most intensive development alternative (Phase I Alternative C as well as that from Phase II Option 2) will combine to be less than 5.14 MGD that has been allocated to the Study Area by the Department of Engineering.

III. LAND USE ALTERNATIVES

PRIMARY LAND USE ALTERNATIVES

North Subarea

The boundaries of the North Subarea are identified in Figure 2. It is bordered on the north by State Highway 237, on the east by the Guadalupe River, on the south by Tasman Drive and on the west by Great America Parkway. It includes 335 acres of undeveloped land of which 322 acres are owned by the City and of which 288 acres are designated as sanitary landfill sites. Approximately 130 acres located in the southern portion of the subarea will have been filled to an average elevation of 15 feet above ground level by 1982; according to the City of Santa Clara Public Works Department's current plans the remaining 158 acres will be filled to the same elevation by 2004. A 25-acre parcel owned by the city is not designated as a landfill site. A 13-acre parcel in the southeast corner of the subarea, adjacent to an existing business park, is the only privately owned undeveloped land in the subarea. In addition to the business park, current development in this subarea is limited to two detention ponds, the Southern Pacific Railroad mainline and PG&E transmission lines running north-south through the site.

Three primary land use alternatives will be presented for this subarea. The primary alternatives involve those parcels of land on which fill operations will have been completed by 1982 or which have not been designated as landfill sites, together with the 16-acre designated landfill site just north of Tasman Drive. It is proposed that this 16-acre parcel be eliminated as a landfill site to allow for development along the proposed Guadalupe Corridor. There are no on-site constraints prohibiting immediate development of this portion of the subarea; therefore, it is designated as the Phase I development area.

The Phase II development area consists of those parcels in the northern portion of the subarea which are designated as landfill sites. Development of these parcels must be coordinated with landfill operations and with expansion of Highway 237; consequently, it cannot proceed as soon as development in the Phase I area. Coordination between landfill management and development of the Phase II area will be discussed in the final subsection of this section of the report.

The three primary land use alternatives identified for the 193-acre Phase I area include one which consists of predominantly public uses (Alternative A), one which combines both public and private uses (Alternative B), and one which consists predominantly of private uses. All of the

alternatives provide an 18-hole golf course with driving range and clubhouse located entirely on filled land.

Depending on the final selection of transit modes for the Guadalupe Corridor, a portion of the 25-acre corner parcel at Tasman Drive and Great America Parkway may be required to accommodate the terminous facilities for the transit prohibiting immediate development of this portion of the subarea; therefore, it is designated as the Phase I development area.

The Phase II development area consists of those parcels in the northern portion of the subarea which are designated as landfill sites. Development of these parcels must be coordinated with landfill operations and with expansion of Highway 237; consequently, it cannot proceed as soon as development in the Phase I area. Coordination between landfill management and development of the Phase II area will be discussed in the final subsection of this section of the report.

The three primary land use alternatives identified for the 193-acre Phase I area include one which consists of predominantly public uses (Alternative A), one which combines both public and private uses (Alternative B), and one which consists predominantly of private uses. All of the alternatives provide an 18-hole golf course with driving range and clubhouse located entirely on filled land.

Depending on the final selection of transit modes for the Guadalupe Corridor, a portion of the 25-acre corner parcel at Tasman Drive and Great America Parkway may be required to accommodate the terminous facilities for the Guadalupe Corridor. This may range from two parallel tracks for light rail vehicle storage to up to a few acres of parking devoted to bus storage. In addition, some building development may be required but can be integrated into the proposed development. Any parking requirements for patrons of the transit system is expected to be minimal since the location is primarily a transit destination point rather than origin point. Shared parking, however, can be integrated with the other proposed development.

The three options explored for the 142-acre Phase II area range in intensity from a business park to a mixed-use complex to entirely recreational development.

Phase I - Alternative A Development Program

Alternative A includes development of a sports arena, a convention center and a Museum of Science and Technology as well as the 18-hole golf course. The convention center and museum would provide support services for the business and industrial community in Santa Clara and in surrounding communities. These facilities would, in turn, generate the need for hotels, specialty retail and convenience retail development.

Development is clustered in two locations, each adjacent to a proposed transit stop on the Guadalupe Corridor. One stop is located east of the San Tomas Creek, midway between the creek and Lafayette Street; the other stop is located west of San Tomas Creek, midway between the creek and Great America Parkway. Figure 3 summarizes the development program and depicts the location of land uses on the site as well as major circulation routes.

The 18,000-seat sports arena and 150,000 square-foot convention center would be located on the 25-acre parcel west of San Tomas Creek at the intersection of Tasman Drive and Great America Parkway. The site is directly north of Marriott's Great America and adjacent to the final transit stop on the proposed Guadalupe Corridor. The sports arena would be of a sufficient size to accommodate a professional basketball team. A 250 to 500-room hotel would be located adjacent to the convention center adjacent to the San Tomas Creek. The shopping facilities would be located in part on the western parcel but would bridge the creek to take advantage of its amenities and to establish a link to the development east of San Tomas Creek.

The 42,000 square-foot specialty retail center would include a variety of small shops and would serve conference attendees, visitors to Marriott's Great America and residents of the surrounding community. The convenience retail development could include financial services (banks, savings and loans, etc.), medical and dental services, cleaners, hair care, travel agencies, a post office and other similar services. It would primarily serve conference attendees and residents.

The retail center is located largely on fill. It would step down to ground level on the western side of San Tomas Creek and would be linked to the second story of the hotel and museum (which are not located on fill) on the eastern side of the creek by a pedestrian bridge over the new road. It would also be linked to the golf course (which is also on fill) by a pedestrian bridge over the road.

Development along Tasman Drive east of the creek would include 100,000 square-foot the Museum of Science and Technology and a second 250 to 500-room hotel. The entrance to the golf course would be located just north of these facilities. The 108-acre golf course would be located on filled land on both sides of Lafayette Street, connected by a pedestrian overpass.

The golf course provides a visual backdrop for the proposed development as well as a recreational opportunity for users of the facilities.

Open Space and Public Recreation

San Tomas Creek is the primary open space amenity within the Phase I development area. The creek is bounded on either side by a levee which is approximately 15 feet above the ground - at the same elevation as the adjacent landfill. The retail center which is designed to link the two portions of the development, is located along the creek. Since the majority of the shops will be located on fill they have visual and physical access to the creek. To take advantage of this creekside location a pedestrian environment oriented toward the creek can be developed within the retail center and extended north and south along the levee, consistent with City and County designation of San Tomas Creek as a recreational corridor. The southward trail could bypass a grade crossing of Tasman Drive by dropping down into the creek bed and returning to the levee south of Tasman Drive. Landscaping and control of water flow can be used to enhance the character of the creek. Relocation of the PG&E transmission lines away from the area as described in Section III will enhance the visual quality of the area.

In addition to the private recreational opportunity provided by the golf course, public recreation in the form of pedestrian and bicycle paths should be integrated into the design of the facility. Figure 14 shows the designated trail system for the area including routes along both the San Tomas Creek and the Guadalupe River. These two north-south routes could be linked by an east-west trail through or along the perimeter of the golf course.

Access and Circulation

Development on both the eastern and western portions of the site is clustered near the proposed transit stops on the Guadalupe Corridor, providing convenient access via public transit. It is recommended that if a fixed rail line is constructed, it be located on the north side of Tasman Drive in this area.

Vehicular access to the sports arena/convention center on the western portion of the site is provided from Tasman Drive and Great America Parkway. A limited amount of close-in parking is provided adjacent to the complex with access directly off of Tasman Drive and Great America Parkway. Remote parking northeast of the complex is accessible directly from Great America Parkway but primarily from a new circulation route within the North Subarea. The proposed road intersects Tasman Drive immediately east of San Tomas Creek and extends to the northern boundary of Phase I development area along the present PG&E easement. The 200-foot wide easement is a trench running through the landfill. Consequently, the road will drop down from Tasman Drive into the easement and will be bridged by pedestrian overpasses. At the northern edge of the Phase I development area, the road intersects a proposed extension of Old Mountain View-Alviso Road which in turn intersects

Great America Parkway. Access to the remote parking area is provided at several points along the proposed roadways.

The proposed road extending north from Tasman Drive also provides access to the specialty and convenience retail center, hotel, museum and golf course on the eastern portion of the site. It branches eastward along the base of the proposed golf course to the Southern Pacific railroad line where it loops southward beneath Tasman Drive into the Southwest Subarea. The underpass beneath Tasman Drive is located within the 50-foot right-of-way provided for this purpose.

Access at the northern edge of the Phase I development area can be extended into the Phase II development area at a future date.

Parking

Parking for the sports arena and convention center is provided in two locations. Close in parking for 1,000 to 1,400 cars is located adjacent to the complex. Remote parking for 2,500 cars is located on 20 acres northeast of the complex with pedestrian access provided by a series of bridges over San Tomas Creek. Additional parking could be made available through an arrangement with Marriott's Great America to use a portion of the parking area located south of Tasman Drive, directly across from the proposed complex. Close in parking for 300 to 500 cars for the hotel in the western portion of the site is provided with access directly from Tasman Drive. Parking for 310 to 410 cars for the retail center is provided adjacent to it with access from the proposed road that extends north from Tasman Drive. Parking to serve the hotel and museum on the eastern portion of the site are similarly accessed by the new road with provision for 300 to 500 cars for the hotel and 600 cars for the museum. Parking for the golf course is located directly across from the retail center.

Phase I - Alternative B

Alternative B is similar to Alternative A with respect to the development program, open space and public recreation, and access. However, it eliminates the sports arena on the western portion of the site and introduces a more substantial private component on the eastern portion. Alternative B is presented in diagrammatic form and the development program summarized in Figure 4.

Development Program

In this alternative the museum is relocated to the western portion of the site, adjacent to the conference center and hotel. It is oriented toward the creek with a view of the golf course in the background. The retail center again creates the link between the two portions of the site. Shopping facilities are expanded to include 50,000 to 100,000 square feet of specialty retail and 20,000 to 40,000 square feet of

convenience retail development. The hotel, located on the eastern portion of the site, connects the retail center to the golf course. The hotel is sited direct adjacent to and oriented toward the golf course.

The eastern portion of the development consists of 300,000 to 400,000 square feet of commercial and industrial office space. Although these office buildings are not located on fill, their lobbies would be located on a pedestrian plaza at fill elevation which corresponds to the elevation of Tasman Drive at the proposed transit stop. Thus, the office structures would be linked by a central pedestrian plaza to the Guadalupe Corridor transit facility. At the transit stop a pedestrian underpass to the Southwest subarea would be provided.

Open Space and Public Recreation

The open space and public recreation program would remain the same as Alternative A.

Access and Circulation

Access and circulation would remain much the same as in Alternative A. However, no remote parking is required. The road intersecting Tasman Drive only extends eastward at the base of the fill (north of the development on the eastern portion of the site) and does not extend northward along the PG&E easement. Access to the western portion of the site is provided directly from Tasman Drive and Great America Parkway while the eastern development is accessed off of the new road.

Parking

A parking area for 1,400 cars is located adjacent to the convention center/museum complex and accessible from Tasman Drive and Great America Parkway. Parking for 250 to 500 cars is provided adjacent to the specialty retail center and for 100 to 200 cars adjacent to convenience retail facilities. Parking for 900 to 1,200 cars is provided adjacent to the commercial and industrial office development. Some parking is located at ground level beneath the pedestrian plaza and as surface parking adjacent to the structures. Additional parking is located across the new road on landfill. Up to 20 acres could be used for parking which would enable the site to accommodate a higher intensity of development than is called for in this alternative.

Phase I - Alternative C

Development Program

Alternative C, depicted in Figure 5, consists entirely of private development. The western portion of the site would accommodate 560,000 to 760,000 square feet of commercial and industrial office development and the eastern portion would accommodate 300,000 to 400,000 square feet of office development as in Alternative B. Only 20,000 to 40,000 square feet of convenience retail development are provided to serve the office employees. One 300 to 500-room hotel is located adjacent to the golf course to serve the businesses in the development area.

In contrast to the prior alternatives, the two portions of the development area are discrete from one another although the retail center could be used to create a link between them.

Open Space and Public Recreation

Integration of the open space along San Tomas Creek with development in the area is more limited than in Alternative A or B. Other elements of the open space and recreation programs would remain the same.

Access and Circulation

Access and circulation are identical to elements described in Alternative B.

Parking

Parking for 1,700 to 2,000 cars is provided on the western portion and parking for 900 to 1,200 cars on the eastern portion. The location of parking is the same as in Alternative B.

Phase II - Option 1

Option 1, as shown in Figure 6, consists of recreational development on 32 to 36 acres of the Phase II development area west of Lafayette Street and possibly a resource recovery facility east of Lafayette Street. The recreational development could consist of a 9-hole executive golf course that shares the club facilities developed in Phase I. The remaining area would be developed in a mix of office and residential uses.

Market conditions could accommodate up to 3 million square feet of office space and 600 residential units (see Economic Assessment). Access to the mixed use development would be provided from Great America Parkway.

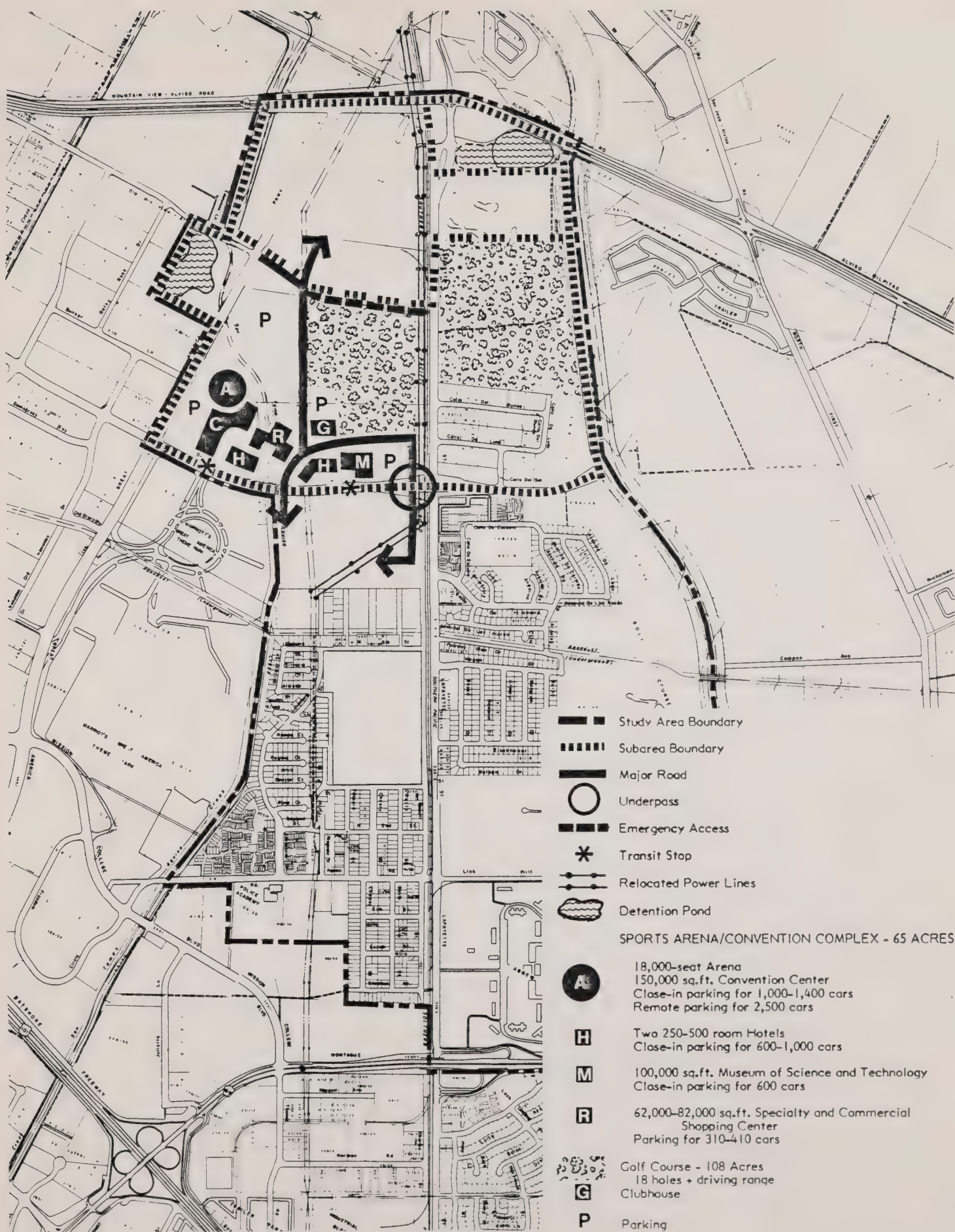
Phase II - Option 2

Option 2 (Figure 7) includes the same recreational and resource recovery facility components as Option 1. Development of the eastern portion of the site consists entirely of office space. Up to 4 million square feet could be accommodated.

Phase II - Option 3

Option 3 (Figure 8) consists entirely of recreational development. It might include a 9-hole executive golf course; play fields for soccer, baseball, lacrosse and other field sports; hard-surfaced courts for basketball, tennis, volleyball, etc. and picnicking facilities.

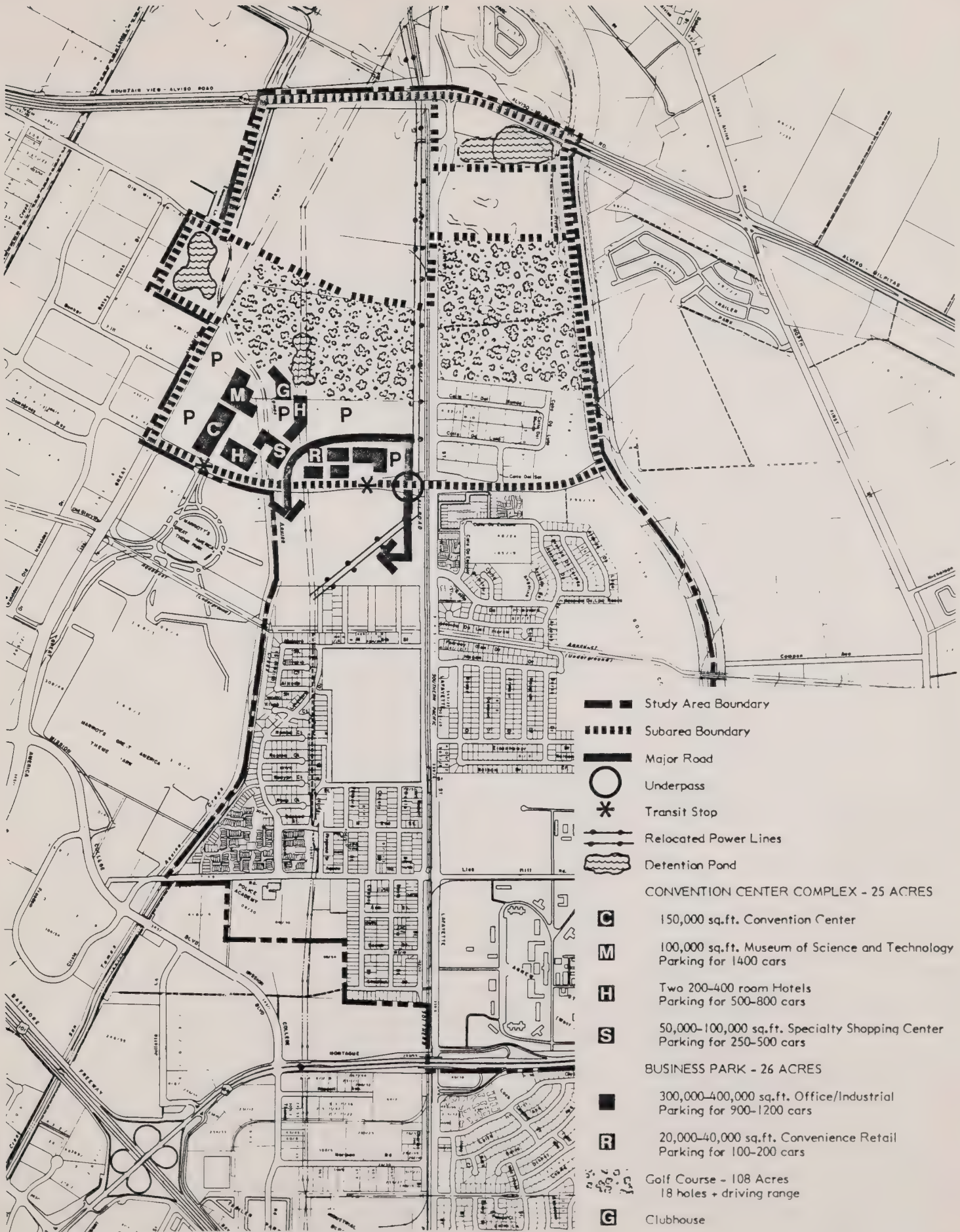
These facilities might be publicly or privately owned or a combination of the two.



NORTH PHASE I ALTERNATIVE A

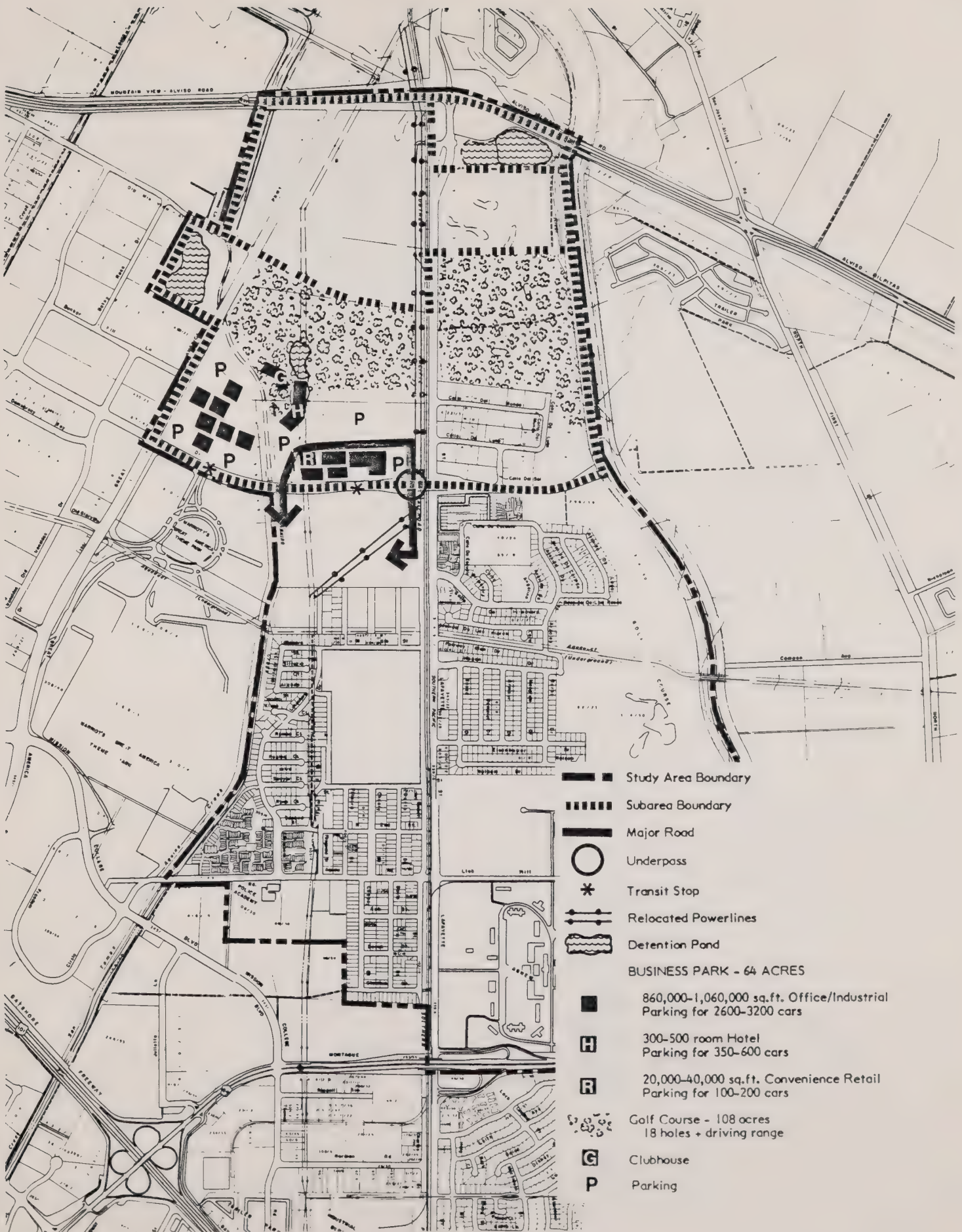
GUADALUPE WEST PLANNING STUDY City of Santa Clara, California

SEDWAY COOKE
SAN FRANCISCO 0' 250' 500' 1.4 MILE



NORTH PHASE I ALTERNATIVE B

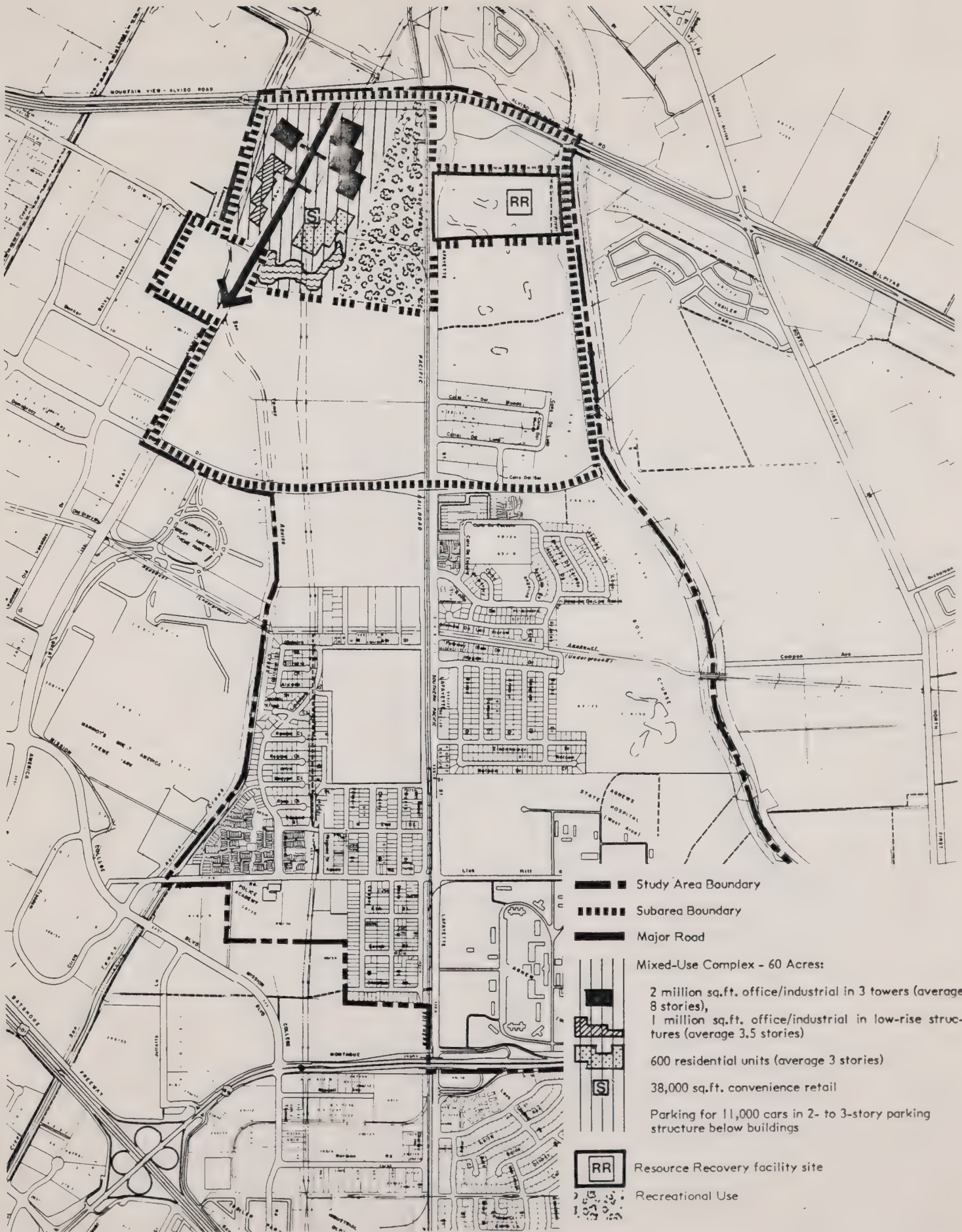
GUADALUPE WEST PLANNING STUDY City of Santa Clara, California



NORTH PHASE I ALTERNATIVE C

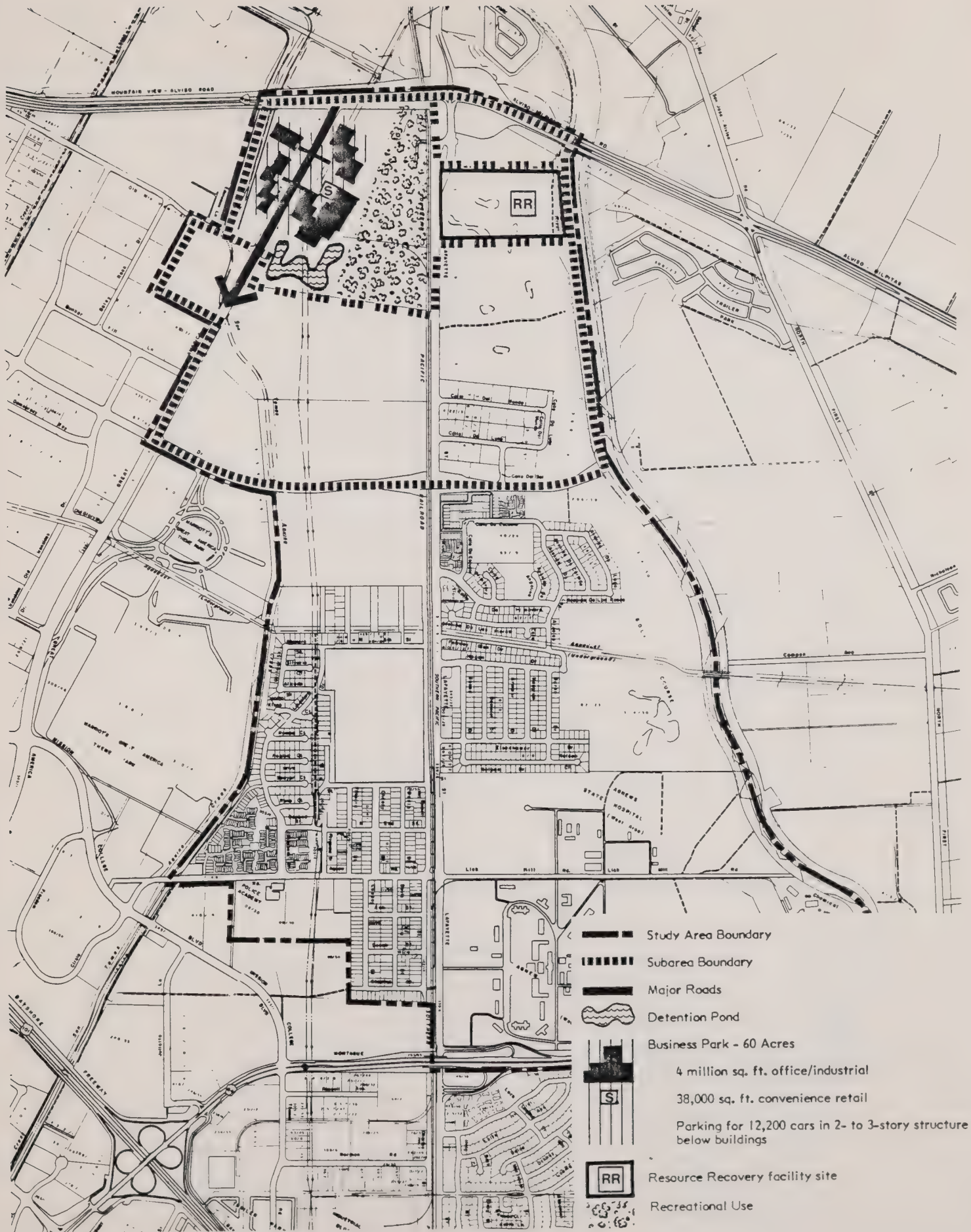
GUADALUPE WEST PLANNING STUDY City of Santa Clara, California

SEDWAY COOKE
SAN FRANCISCO 0' 250' 500' 1/4 MILE



NORTH PHASE II OPTION 1

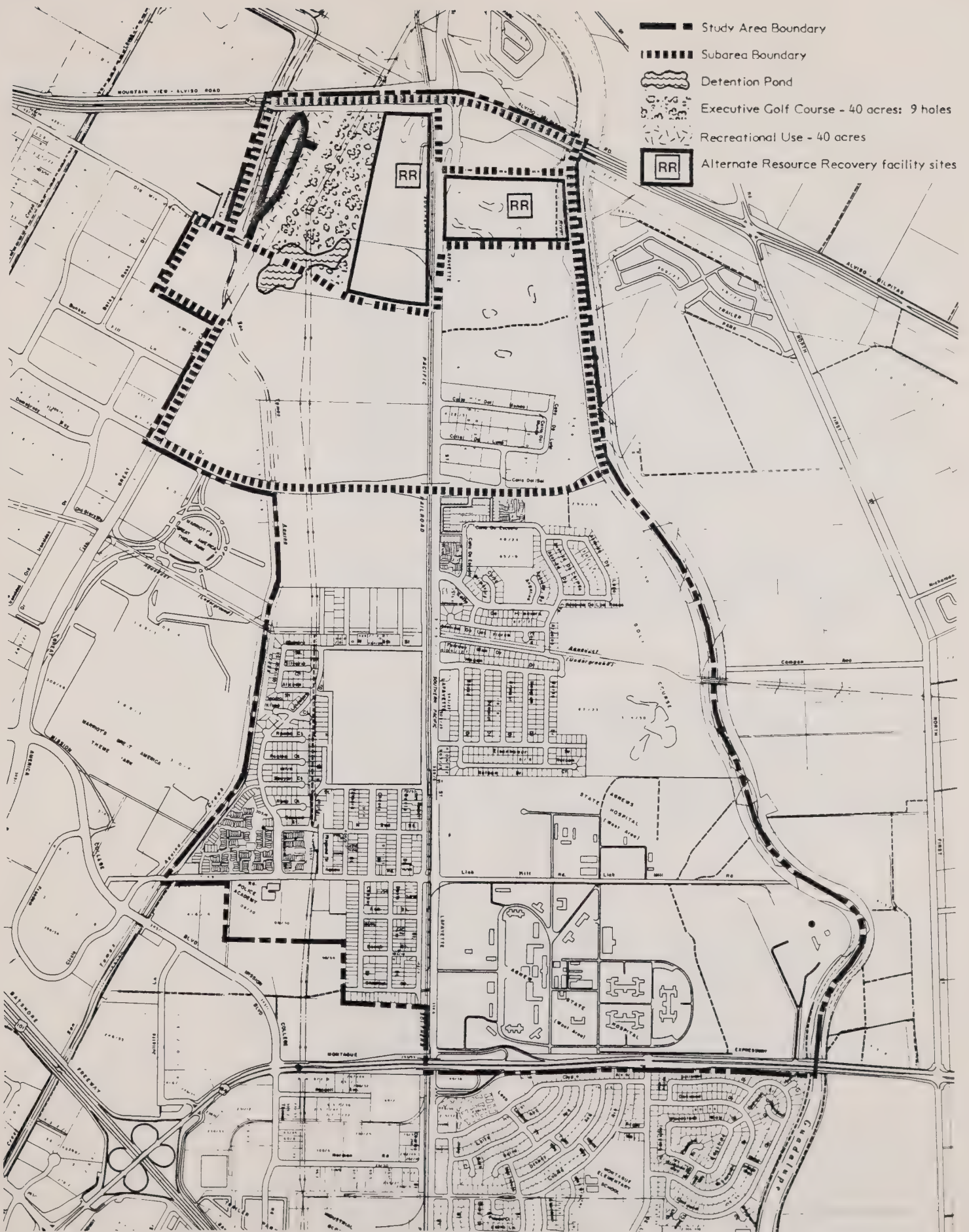
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NORTH PHASE II OPTION 2

GUADALUPE WEST PLANNING STUDY City of Santa Clara, California

SEDWAY/COOKE
SAN FRANCISCO 0' 250' 500' 1/4 MILE



NORTH PHASE II OPTION 3

GUADALUPE WEST PLANNING STUDY City of Santa Clara, California

Southwest Subarea

Location and Timing of Development

The developable portion of the Southwest Subarea is bordered by Tasman Drive on the north, Lafayette Street on the east, Third Street on the south, and Fuller Street and San Tomas Creek on the west (see Figure 9).

It consists of two primary parcels of land: 61 acres in the northern portion owned by the City and 43 acres in the southern portion which are privately owned. Between the two is a single row of 12 residential lots, 5 of which have been developed. Further residential development in this subarea should not be allowed since the area is in the 65 to 70 CNEL airport noise contour. The 65 CNEL contour is identified by the United States Department of Housing and Urban Development (HUD) as the limit for conventionally built housing. (Measures such as double glazing and inoperable windows would be required in the 65 to 70 CNEL area to meet HUD standards.) In order to develop that subarea in an alternative land use the row of 5 houses and 7 undeveloped lots will have to be purchased and removed to create a contiguous developable area.

Revenues from development of this subarea might be used to finance the golf course in the Phase I development of the North Subarea (see Economic Assessment). If that is the case, development of the Southwest Subarea should begin as soon as possible.

Land Use Concept

Given the constraint on residential development imposed by airport noise, it is recommended that the Southwest Subarea be developed as a business park. To buffer the residential neighborhood to the south and west of the area and to encourage the use of public transit, development should be less intense on the southern portion of the site and more intense on the northern portion near the Guadalupe Corridor transit stop.

Development Program

In the schematic development plan depicted in Figure 9, 800,000 square feet of industrial or commercial office space is provided in a "campus" setting at a floor area ratio (F.A.R.) of .3. Structures ranging from two to four stories are clustered along a north-south access to provide interior pedestrian circulation through the northern portion and into the southern portion of the Southwest Subarea. Parking for each structure is provided adjacent to it on the perimeter of the site.

The southern portion could be developed as a series of one-story business park condominiums or as a continuation of the research park to the north at heights of one to two stories. At this intensity the site could accommodate 560,000 square feet of development. The north-south pedestrian circulation route should extend through this portion of the subarea. If

the area is developed as a research park, parking can be concentrated on the eastern perimeter of the site to create a buffer for the adjacent residential area. A 3 to 4 acre parcel in the southeast corner of the site is an alternate location for the neighborhood retail center needed to serve the Study Area and its surroundings. The 40,000 square foot retail center would be accessible to the residential areas in the southwest via Bassett Street and to the southeast and Fairway Glen via the proposed extension of Third Street across Lafayette Street.

A fire station could be located just north of the Hetch Hetchy corridor in the western portion of the site.

The northern and southern portions of the Southwest Subarea are divided by the Hetch Hetchy right-of-way which must be maintained as open space and a relatively new road with the row of residential parcels proposed for acquisition in-between the two.

Open Space and Public Recreation

Because of its location between the Hetch-Hetchy right-of-way and the sanitary sewer in the right-of-way of N. 6th Street, the acquired row of residential parcels would be difficult to develop as anything but open space. As a public recreation area it would serve both portions of the Southwest Area. It would also provide recreational opportunities for users of the Hetch Hetchy corridor. That corridor is designated by the city as a bicycle and pedestrian route linking the San Tomas Creek and the Guadalupe River recreational corridors with a pedestrian bridge over Lafayette Street. The interior pedestrian circulation route through the northern portion of the subarea would link the transit stop at the north end with the open space along the Hetch Hetchy corridor.

Access and Circulation

Access by public transit would be provided by the Guadalupe Corridor transit stop on Tasman Drive. Primary vehicular access would also be provided from Tasman Drive. The road into the North Subarea described above would intersect and cross Tasman Drive at grade; dropping down into the Southwest Subarea. It would loop through the site and to the north, crossing Tasman Drive via the underpass described in the North Subarea. Secondary access would be provided via the extension of Third Street across Lafayette Street. This extension would require a grade crossing of the Southern Pacific railroad line.

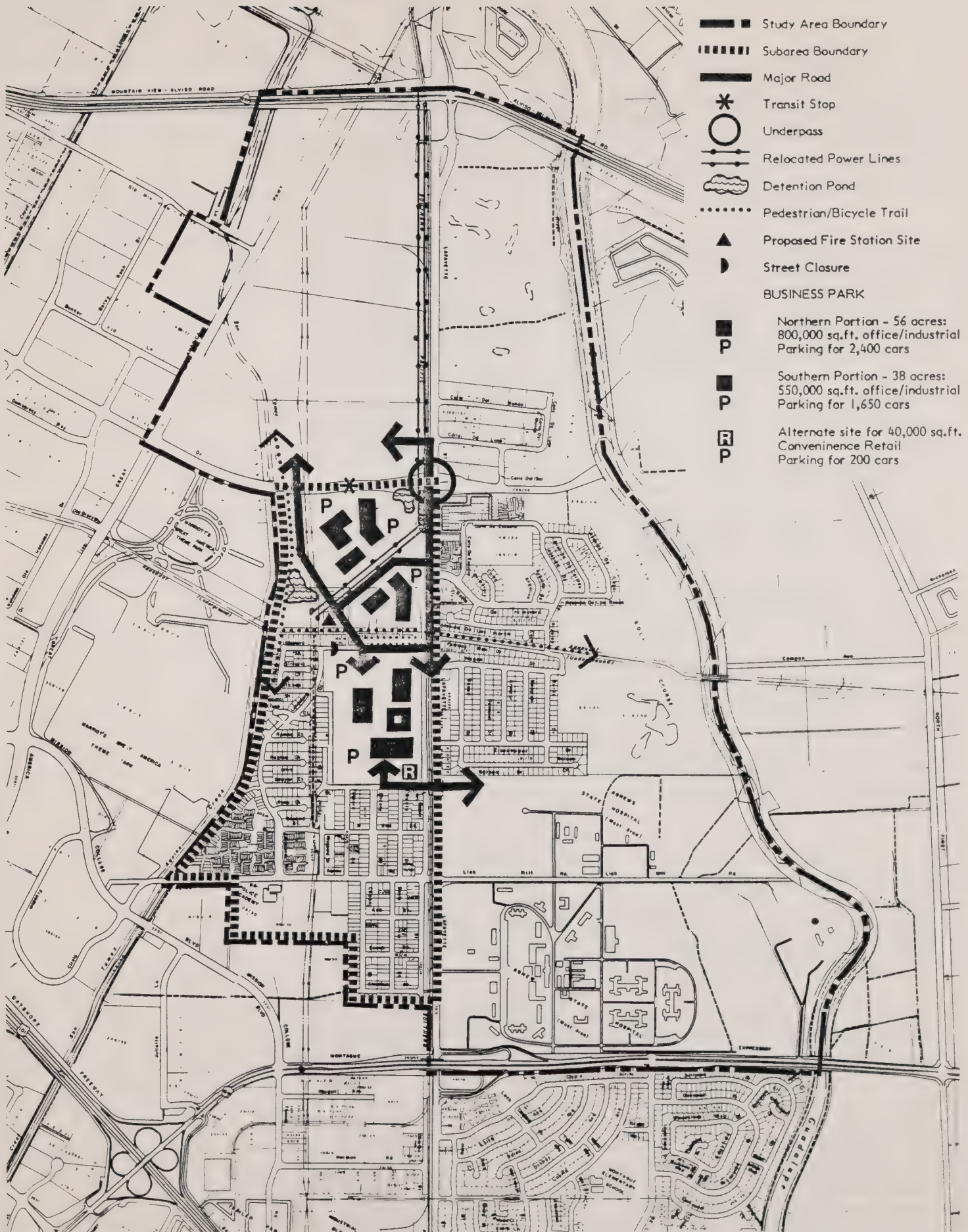
To avoid traffic impacts on the surrounding residential neighborhoods no access from the business park to the residential areas would be provided. Streets would be closed as shown in Figure 9. The fire station would be sited between the two areas so that engines would have access to both

areas. If the neighborhood retail center is located in the southeastern corner of the subarea, access from the residential area would have to be provided, probably along Bassett Street. A shuttle bus could provide access from the Guadalupe Corridor through the Southwest Subarea.

Parking

Parking for the northern portion would accommodate 2,400 cars and for the southern portion 1,650 cars. It would be exclusively surface parking. The location of and access to parking areas is shown in Figure 9.

The relocated PG&E transmission lines would leave their current alignment somewhere in the Southwest Subarea. Figure 9 shows one possible configuration with the lines running diagonally through the northern portion between two clusters of buildings along an internal circulation route.



SOUTHWEST

GUADALUPE WEST PLANNING STUDY City of Santa Clara, California

SEDWAY COOKE
SAN FRANCISCO 0' 250' 500' 1.4 MILE

Fairway Glen Subarea

Location

This subarea (depicted in Figure 10) takes its name from the 105-acre golf course, located along the Guadalupe River, which could be developed more intensively. On its western edge the 18-hole golf course borders on a residential neighborhood consisting primarily of single family detached units.

Land Use Concept

There are several factors favoring more intensive development of the site and specifically favoring residential development. First, within the Study Area, it would be more efficient to locate a golf course on landfill where the cost of development is lower than on unfilled land. There is an abundance of landfill in the North Subarea on which a golf course could be located. Second, a golf course in the North Subarea located near the public, quasi-public and commercial uses proposed for that area would support those uses, while the Fairway Glen golf course is isolated from facilities that would generate users for the golf course. Third, the Fairway Glen golf course is in need of major renovation. Fourth, sale of the Fairway Glen golf course would provide revenues needed to finance the golf course in the North Subarea as well as other improvements. (However, sale or leasing of City-owned land in the Southwest Subarea would achieve the same result.) And finally, there is unquestionably a need for more housing in the northern portion of Santa Clara County. Additional housing in the immediate area is needed to support the neighborhood retail center required for existing residential development in the area and would reinforce the character of the existing residential neighborhood. Housing would be compatible with uses to the west. (The land across the Guadalupe River to the east is being developed as a business park so that a low-intensity office park might also be considered appropriate if adequately buffered on the west side.)

On the other hand, the site is located between the 60 and 65 CNEL noise contours. While the area is below the HUD threshold above which special noise control measures would be required, it is nonetheless affected by airport noise. Thus, its desirability as a residential site is significantly reduced although it is the least noisy site in the entire Study Area.

If housing is not developed in the Fairway Glen site and a golf course is constructed in the North Subarea, alternate uses of Fairway Glen are limited. Development of a business park would not necessarily strengthen the character of the residential neighborhoods. It could be maintained as a storm runoff detention area for the areas south of it, saving the City up to \$1.3 million needed for storm water management, and as a park. Maintenance of the park would probably have to be financed by revenues from development in the North and/or Southwest Subareas. (See Section IV, Implementation for further discussion of alternatives and phasing; see Market Opportunities for a discussion of the projected housing absorption rate.)

Development Program

The development program calls for a mix of housing types ranging from single family detached units at a net density of 6 to 8 units per acre adjacent to the existing single family detached units, townhouses at a net density of 8 to 12 units per acre to the east of the single family units and multi-family units at a net density of 20 to 24 units per acre along the Guadalupe River. This density gradient has two major advantages. First, it creates a gradual transition from the existing neighborhood, and second, it concentrates traffic along the major collector street through the site. Of the total 1,219 units, 1,000 are multi-family units, 169 townhouses and 50 single family detached units. All would be sale rather than rental units.

Open Space and Public Recreation

The open space/recreational component of the plan takes advantage of the amenities provided by the Guadalupe River. The levee should be landscaped and a pedestrian bicycle trail developed as part of the designated regional trail system. A 40-foot wide swale running the length of the river is one option required for storm water management of the 100 year storm. Located between the major north-south collector street and the levee it should be landscaped primarily with turf. A variety of activities can occur in this shallow swale. Play fields, picnicking facilities and a limited number of hard surface courts within the swale can be used except when the swale is carrying runoff during and after a storm.

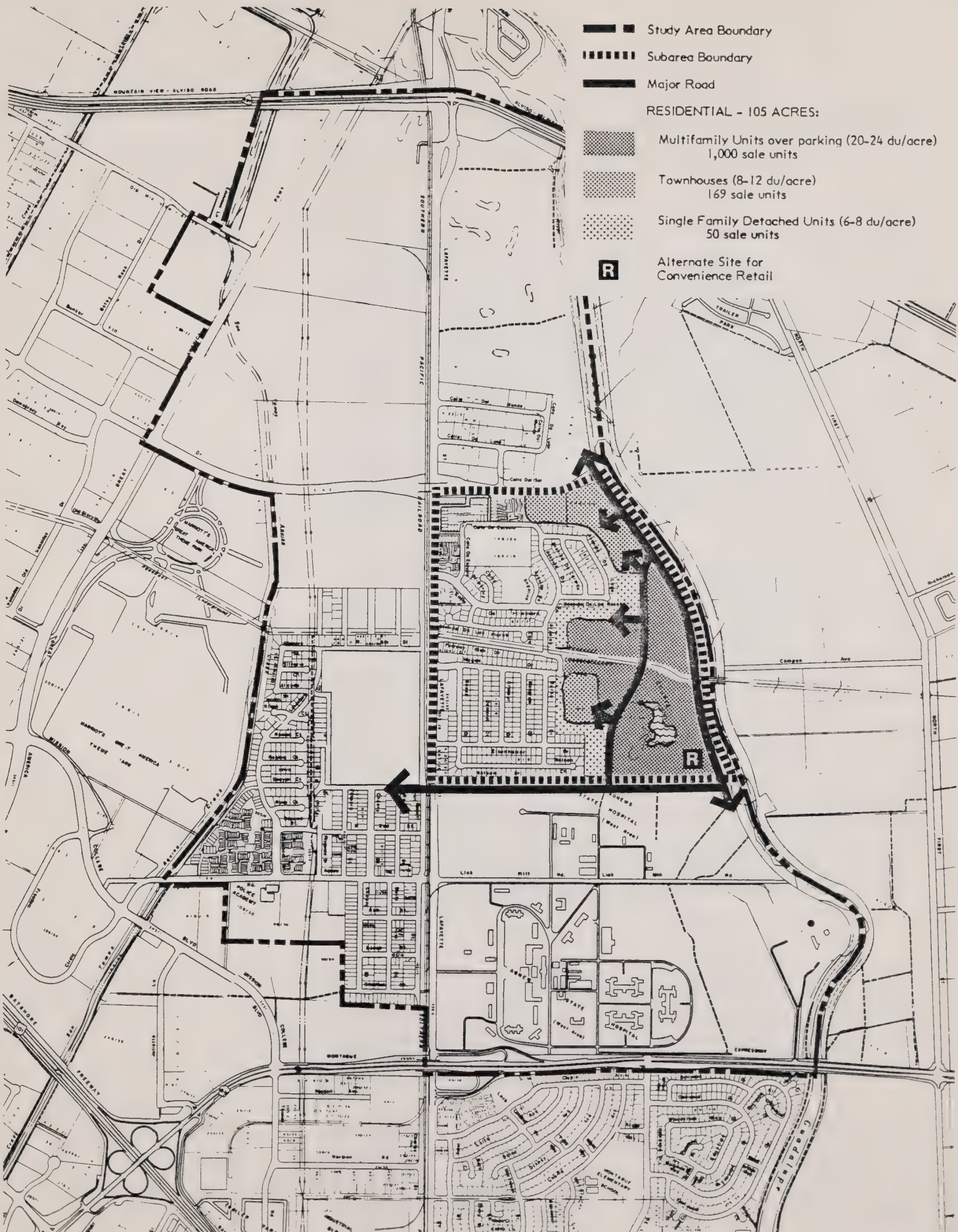
The Hetch Hetchy corridor runs east to west through the site. It provides a central pedestrian corridor to the Guadalupe River recreational facilities; recreational facilities could also be developed along the Hetch Hetchy corridor itself. A detention pond is required within the development area to collect and temporarily store storm water runoff. The area around it can be used for recreational activities in much the same way as the drainage swale.

Access and Circulation

A major north-south collector street following the Guadalupe River would provide major access to the site. It intersects Tasman Drive at grade and could extend across Tasman Drive to serve the small undeveloped area there. It extends through the Southeast Subarea to the Montague Expressway, intersecting the proposed east-west road which runs along the northern boundary of the Southeast Subarea and intersects Lafayette Street. There are no streets connecting the proposed residential development with the existing residential neighborhood to the west so that traffic impacts within that neighborhood from the Fairway Glen development would be non-existent.

The Hetch Hetchy pedestrian and bicycle corridor bridges the Guadalupe River and should connect to a Guadalupe Corridor transit stop about one-third mile east to provide access from the residential neighborhood to public transit.

The corridor passes through the City of San Jose between the Guadalupe River and the proposed transit stop and its construction would be under the jurisdiction of San Jose.



FAIRWAY GLEN

10

Southeast Subarea

The Southeast Subarea is shown in Figure 11. Proposed development consists of two major projects already in the planning stages which are located on private or state owned land. The City owns no property in this subarea.

Development Program

The development program shown in Figure 11 reflects the two current development projects. A third project in the subarea has already been approved by the City. The approved Lick Mill residential development project consists of 800 multi-family units located on 27.5 acres along the Guadalupe River. Adjacent to the Lick Mill site development of 70 acres of state-owned property on the Agnews State Hospital grounds is proposed. The development program includes the following mix of housing types: 500 three- to four-story multi-family units at densities of 16 to 30 units per net acre with 400 for sale and 100 to be rented; 394 two- to three-story multi-family rental units at an average density of 14 units per net acre; and 106 townhouses at 8 units per acre, all of which will be for sale.

In the northwestern corner of the subarea lies the 45-acre Hope Industries site also on land to be leased from the Agnews State Hospital. It is currently proposed to include 154,400 square feet of industrial condominiums and 133,900 square feet of commercial office space as well as a large horticultural area. A development component not included in the original plan submitted to the City is a 40,000 square foot neighborhood retail center. This is the most accessible and centrally located site available in the Study Area for this use. It is accessible to proposed development in the Southeast and Fairway Glen Subareas via new roads proposed for these areas. It is accessible to the existing neighborhood east of Lafayette Street and to other neighborhoods in the vicinity of the Study Area via Lafayette Street. Access to existing neighborhoods in the Southwest Subarea would be provided by the proposed extension of Third Street across Lafayette Street and from Lafayette Street.

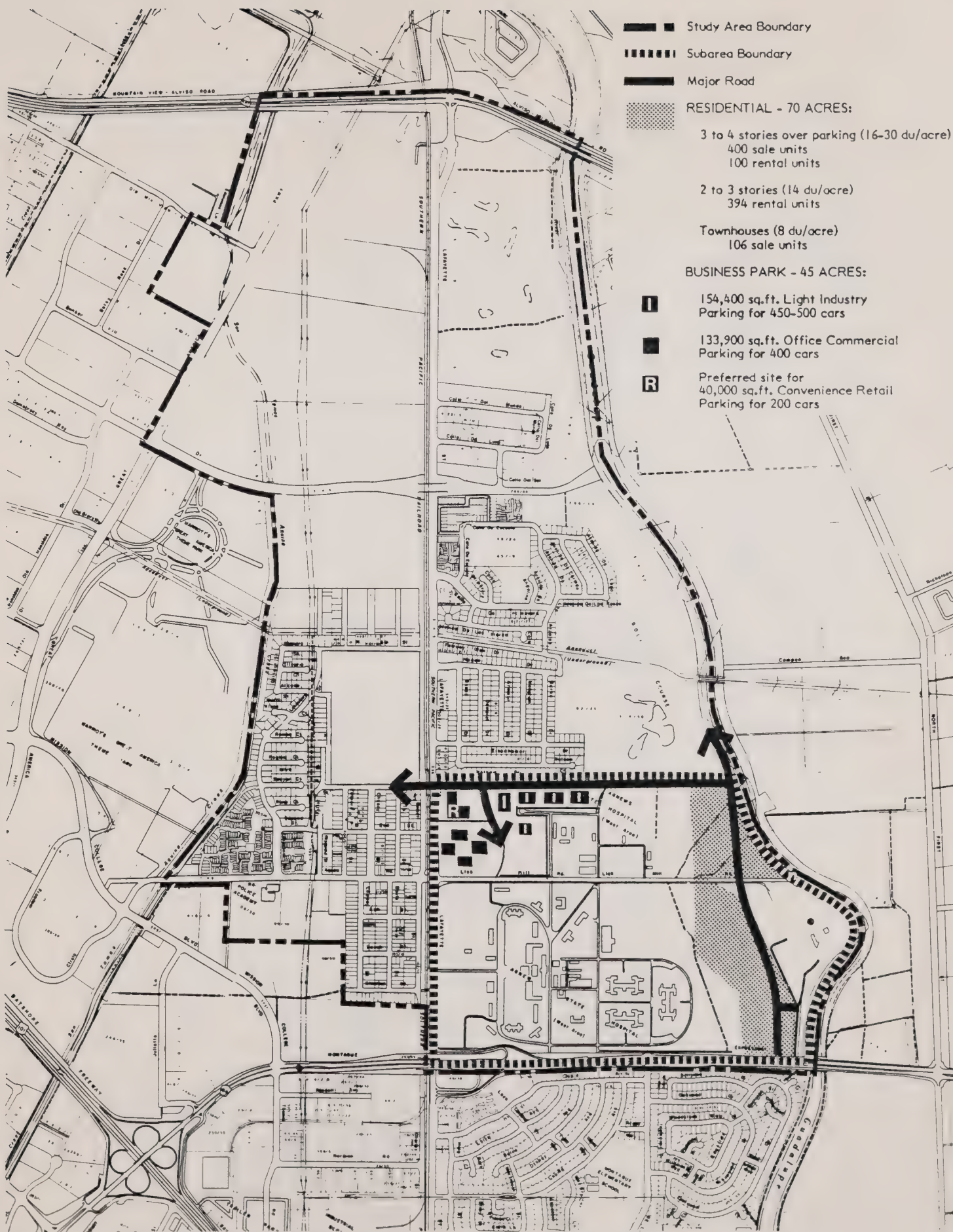
Access and Circulation

Two major vehicular circulation routes are required in this subarea. A road running north from the Montague Expressway to the northern edge of the subarea has been approved by the City. The proposed extension of Third Street described in the Southwest Subarea would link the north-south road to Lafayette Street

A pedestrian bridge over the Guadalupe River should be constructed to provide pedestrian access to the nearest transit stop on the Guadalupe Corridor which is located less than one-fourth mile from the Lick Mill development site. The pedestrian route would be located in the City of San Jose.

Summary of Development
Plans

Table 2 summarizes the development program and parking requirements for the entire Study Area. Subareas are indicated in the columns and land use type in the rows. It emphasizes that the majority of development is proposed for the North Subarea with the greatest mix of uses possible in the Phase I development area.



- Study Area Boundary
- Subarea Boundary
- == Major Road
- RESIDENTIAL - 70 ACRES:
 - 3 to 4 stories over parking (16-30 du/acre)
400 sale units
100 rental units
 - 2 to 3 stories (14 du/acre)
394 rental units
 - Townhouses (8 du/acre)
106 sale units
- BUSINESS PARK - 45 ACRES:
 - I** 154,400 sq.ft. Light Industry
Parking for 450-500 cars
 - C** 133,900 sq.ft. Office Commercial
Parking for 400 cars
 - R** Preferred site for
40,000 sq.ft. Convenience Retail
Parking for 200 cars

SOUTHEAST

GUADALUPE WEST PLANNING STUDY City of Santa Clara, California

TABLE 2
SUMMARY OF DEVELOPMENT PLANS IN STUDY AREA

	NORTH PHASE I (193 Acres)			NORTH PHASE II (142 Acres)			SOUTHWEST			
	<u>Alternative A</u>	<u>Alternative B</u>	<u>Alternative C</u>	<u>Option 1</u>	<u>Option 2</u>	<u>Option 3</u>	<u>City-owned (56 acres)</u>	<u>Privately owned (38 acres)</u>	<u>FAIRWAY GLEN (105 acres)</u>	<u>SOUTH- EAST 115 acres)</u>
<u>Sports Arena</u>	18,000 seats 1000-1400 cars close in 2500 cars remote	-	-	-	-	-	-	-	-	-
<u>Convention Center</u>	150,000 sq.ft Shares sports arena parking	150,000 sq.ft. 1400 cars	-	-	-	-	-	-	-	-
<u>Museum of Science and Technology</u>	100,000 sq.ft 600 cars close in Shares sports arena remote parking	100,000 sq.ft. Shares convention center parking	-	-	-	-	-	-	-	-
<u>Hotels</u>	500-1000 rooms 550-1100 cars	400-800 rooms 450-850 cars	300-500 rooms 350-550 cars	-	-	-	-	-	-	-
<u>Specialty Retail</u>	42,000 sq.ft. 210 cars	50,000- 100,000 sq.ft 250-500 cars	-	-	-	-	-	-	-	-
<u>Conveni- ence Retail</u>	20,000-40,000 sq.ft. 100-200 cars	Same as Alternative A	Same as Alternative A	38,000 sq.ft. 190 cars	same as Option 1	-	-	-	-	40,000 sq.ft. 200 cars
<u>Office/ Industrial</u>	-	300,000- 400,000 sq.ft. 900-1200 cars	860,000- 1,060,000 sq.ft. 2600-3200 cars	3 million sq.ft. 9610 cars	4 million sq.ft. 12,010 cars	-	800,000 sq.ft. 2400 cars	550,000 sq.ft 1650 cars	-	154,400 sq.ft. light industry 450-500 cars 133,900 sq.ft. office commercial 400 cars
<u>Recreation</u>	18-hole golf course, driving range and club house on 108 acres	Same as Alternative A	Same as Alternative A	9-hole executive golf course and/ or public recreation	same as Option 1	same as Option 1	-	-	-	-
<u>Residential</u>	-	-	-	600 units 1200 cars	-	-	-	-	1000 garden apartments 169 townhouses 50 single family detached units	894 garden apartments 106 townhouses

LANDFILL MANAGEMENT AND DEVELOPMENT PHASING

Background

Management of the City's sanitary landfill, located in the Northern Subarea, is integral to the Phase II development plan.

Over 90 percent of the undeveloped land in the Northern Subarea is designated as sanitary landfill sites for the City of Santa Clara. Half of that land - 140 acres located in the southern portion of the subarea - will have been filled by 1982. An area of 188 acres is currently scheduled for fill through the year 2004 at a rate of 6 acres per year.

The development plan for Phase I of the North Subarea proposes to eliminate the 16-acre parcel immediately north of Tasman Drive as a designated fill site. This action would shorten the life of landfill operations in the Study Area by three years. The remaining acreage consists of: a 35-acre parcel (32 acres after fill) east of Lafayette Street - designated as Parcel A; a 90-acre parcel between Lafayette Street and Great America Parkway which, for planning purposes, has been subdivided into Parcel B consisting of 36 acres (32 acres after fill) west of Lafayette Street and Parcel C consisting of 49 acres (44 acres after fill) east of Great America Parkway; and a 17-acre parcel (11 acres after fill) west of Great America Parkway. These parcels are identified in the key to Figure 12.

The City's Public Works Department is currently planning for the construction of a solid waste "resource recovery" facility which would reduce the volume of solid waste to be disposed of in the landfill by 55 to 75 percent. If the resource recovery facility were in operation by 1990, the life of the designated landfill sites in the Study Area as approved by the San Francisco Bay Regional Water Quality Control Board (R.W.Q.C.B.) would be extended at least to 2021 and possibly to 2035, even with the elimination of the 16-acre parcel north of Tasman Drive. When all of the designated sites have been filled, either a remote site must be acquired or the already filled sites could be filled to a higher level - "double filled", subject to approval of the R.W.Q.C.B.

If the City decides to develop any of the designated landfill sites instead of using them for landfill, a remote site would have to be acquired at an earlier date. Remote sites are difficult to find and the transportation of solid waste to them will significantly increase operational costs. If the city chooses to develop any of the designated sites after they had been filled, the opportunity to "double fill" them - that is, to fill them to a higher level - and further extend the life of the fill will be lost. If the City chooses to double fill some of the

CHOICES FOR SANITARY LANDFILL MANAGEMENT: 1982-2040

YEAR

1980

1990

2000

2010

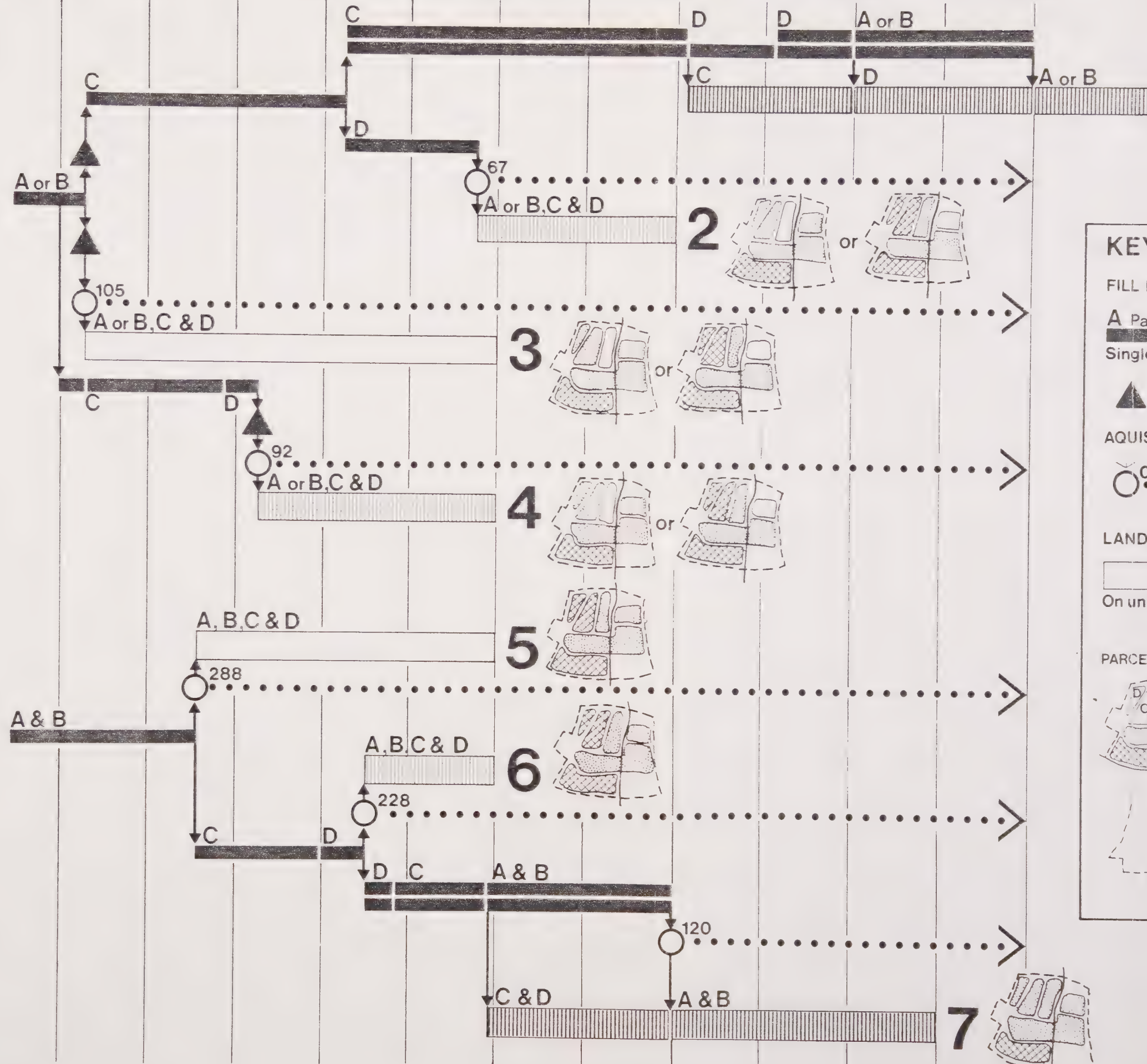
2020

2030

2040

RESOURCE RECOVERY FACILITY

LANDFILL ONLY



KEY

FILL IN STUDY AREA

A Parcel

Single

Double

▲ CONSTRUCTION OF RESOURCE RECOVERY FACILITY

AQUISITION OF REMOTE FILL SITE

○ 00 ← Size in acres
Fill transported to remote site →

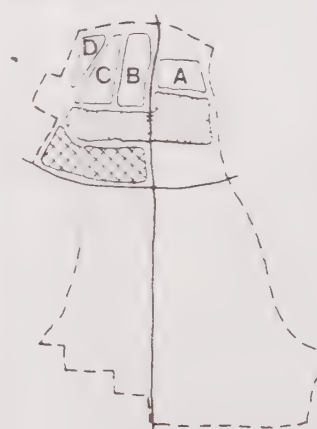
LAND DEVELOPMENT

On unfilled site

On filled site

On double-filled site

PARCEL KEY



LAND USE

Business Park and/or Mixed-Use Development

Recreational Development

Land Fill Sites

	Gross Acres	Net Acres
A	35	32
B	36	32
C	49	44
D	17	10

designated parcels, future development on those parcels will probably be limited to recreational uses.

The coordination of landfill and land development is a complex problem requiring a series of decisions, some of which must be made immediately and others which depend on the outcome of the initial decisions. This section will describe seven primary landfill management choices available to the City and will compare them with respect to their implications for development as well as for solving the solid waste disposal problem. These choices do not, of course, include all options available to the City but they are illustrative of the range of possibilities.

This discussion of landfill management choices accepts the determination of the City Public Works Department that the construction of a resource recovery facility is preferable to an intensive source-separation recycling program and a combination of on-site and municipal composting of wet garbage and plant material as a means of reducing the volume of solid waste. However, the need to coordinate the combustion facility with recycling activities will be discussed. It also accepts the Public Works Department's assumptions about rates of fill with and without the resource recovery facility.

Resource Recovery or Landfill Only

There are two primary "families" of choices for how landfill operations and land development of the Phase II area might proceed. They are a function of whether or not the proposed resource recovery facility is constructed. Choices 1, 2 and 3 assume that the City is able to construct a resource recovery facility by 1990; Choice 4 assumes that the facility is not built until 1996. Choices 5, 6 and 7 assume that the City does not succeed in constructing a resource recovery facility before 2020 - the point in time at which no possibility of additional fill in the Study Area will remain.

The choice between constructing a resource recovery facility and relying solely on acquisition of a remote site can be characterized in terms of its fiscal implications for the City. The construction of the resource recovery facility requires a significant expenditure - on the order of \$50 million to \$100 million - in the near term future (1982-1996). Reliance solely on landfill for waste disposal will require an undeterminable expenditure for a remote site in the mid-range future (1992-2020) and carries with it considerable uncertainty as to whether or not a remote site can be found. If a site is found and acquired, operational costs will increase substantially since the solid waste will have to be transported either by truck or rail to the remote site. Increasing oil costs and uncertainty as to availability of oil means that operational costs will certainly increase with no ultimate ceiling. In contrast, the resource recovery facility uses the heat generated by combustion of solid waste

as its energy source, eliminating reliance on imported energy and uncertainty concerning operational costs.

While the resource recovery facility has advantages over reliance on landfill only, there are potential disadvantages to the use of a resource recovery facility. It will produce airborne pollutants which will affect the already deteriorated air quality in Santa Clara. Furthermore, unless it is carefully sized to allow for recycling of materials or the City coordinates with nearby jurisdiction to absorb their waste stream as reuse, source-separation recycling and composting of wet garbage and plant material in Santa Clara increases, the resource recovery facility may establish a dependence on a waste stream that is excessive from a resource-management perspective and, as a result, discourage increased reuse, recycling and composting. This problem has already arisen in several communities in the U.S., the most well-publicized being Dade County, Florida.

The resource recovery facility requires a site approximately 30 acres in size with vehicular access for trucks. It is also desirable to have rail access so that ash and noncombustible wastes can be shipped by rail as well as by truck to a remote site.

The site preferred by the Public Works Department is the current Flea Market site which lies more or less in Parcel B. The major advantage of this site is its accessibility to the Southern Pacific main railroad line. Location of the resource recovery facility on Parcel B would place it in the middle of the Phase II area. Its visual and noise impacts would limit the desirability of parcels on either side of Parcel B for commercial or mixed use development. Consequently, siting of the resource recovery facility on Parcel B would essentially limit development in the Phase II area to low-intensity recreational uses.

Location of the resource recovery facility on Parcel A would place it on the edge of the Phase II development area and allow for more intensive development in the remainder of the area. Parcel B could be developed for recreational use - for example, a 9-hole executive golf course - to create a buffer between the resource recovery facility and Parcels C and D. Then, Parcels C and D could be developed for commercial and/or residential use. However, direct rail access to Parcel A is not available. Ash and noncombustible materials would have to be conveyed across Lafayette Street to the Southern Pacific main line if they were being transported to a remote site by rail.

The Public Works Department would also prefer to construct the facility on unfilled land since construction would be substantially less expensive than construction on filled land. The elimination of 32 acres from landfill designation would

Landfill Management/Land Development Choices

shorten the life of the fill by 12 to 21 years. Thus, the economic trade off is between the cost of construction on filled land and the acquisition and operational costs of a 30-acre portion of a remote site. A potential advantage of siting the resource recovery facility on filled land is that it would increase the range of opportunities available for conveying ash and noncombustible wastes from Parcel A to railroad facilities using gravity transfer.

Each of the seven choices will be described briefly, focusing on its potential for solving the solid waste disposal problem and on its implications for land development in the Phase II area.

Since the City is actively pursuing plans to construct a resource recovery facility, the choices that would rely on landfill only (Choices 5, 6 and 7) may be thought of as alternatives to fall back on should the preferred approach fail.

Figure 12 characterizes the choices in terms of actions which must be taken over time in order to accommodate both landfill operations and land development: **fill operations** within the Phase II development area, construction of the **resource recovery facility**, acquisition of a **remote landfill site**, and **development** of the Phase II area. The location of each activity within the Phase II development area is indicated by its parcel designation - A, B, C or D; the size of the area affected is expressed in acres.

The choices begin in 1982 as two timelines which branch off over time as subsequent decisions are made and ultimately define seven end points. The type of development that could occur on each parcel at each end point is depicted in a schematic diagram at the end of the timeline for each choice.

The timelines differentiate between fill as currently planned (shown by a single solid band) and additional fill - or "double fill" (shown by a double solid band) - which would require an amendment to the current landfill plan approved by the San Francisco Bay Area Regional Water Quality Control Board. Assumptions regarding the rate of fill with and without the resource recovery facility are set forth in Table 3. Fill prior to operation of the resource recovery facility is expected to occur at a rate of 6 acres per year; fill after the resource recovery facility is in operation is estimated to occur at a rate of 1.5 to 2.7 acres per year. An average rate of 2.1 acres per year is used in this discussion.

TABLE 3
CHOICES FOR LANDFILL MANAGEMENT AND DEVELOPMENT

	<u>End of Land Fill in Study Area^{1,2,3/} Acquisition of Remote Site</u>	<u>Phase II Development Opportunities⁴</u>	<u>Start-Up Date for Phase II</u>	<u>Size of Remote Site (Acres)</u>
<u>With Resource Recovery Facility</u>				
1	2040	Option 3 on double fill	2022	0
2	2008	Option 1,2, or 3 on fill	1988-2008 ^{5,6}	67
3	1990	Option 1,2 or 3 on unfilled land	1990 ⁵	105
4	1996	Option 1,2 or 3 on fill	1988-1996 ^{5,6}	92
<u>Without Resource Recovery Facility</u>				
5	1992	Option 1,2 or 3 on unfilled land	1992 ⁵	288
6	2002	Option 1,2 or 3 on fill	1987-1995 ^{5,6}	228
7	2020	Option 3 on double fill	2010	120

Assumptions:

- I.
 - o 6 acres net per year without resource recovery facility (Santa Clara Public Works Department).
 - o 2.1 acres per year with resource recovery facility or a reduction to 35% of current waste stream:

City of Santa Clara Public Works Department assumes 25% to 35% of the total waste stream (by volume) is inert and cannot be combusted and that 10% of the combined waste will remain after combustion resulting in a total reduction in the waste stream to 35% to 45% of the total.

Based on the countywide composition of waste stream (10.8% inerts by weight), volume after resource recovery facility would be reduced to less than 25% of the total.

	Density (lb/yd.***)**		Composition of Solid Waste Stream in Santa Clara County:		
	<u>range</u>	<u>average</u>	<u>by weight***</u>	<u>by volume</u>	
				<u>before R.R.</u>	<u>after R.R.</u>
Residential/ Commercial Reuse	600-1100	850	15.2%	87.1%	77.3%
Street/Yard Refuse	300-1200	750	8.0%	6.5%	5.8%
Sludge	800-1600	1200	6.0%	3.2%	2.7%
Demolition Wood	600-1000	800	*		
Concrete, brick and asphalt	1500-2200	1850	<u>10.8%</u>	<u>3.2%</u>	<u>14.2%</u>
			100.0%	100.0%	100.0%

* Will not be included in fill (S.Christifano).

** California Solid Waste Management Board, Technical Information Series: Bulletin No. 2, Solid Waste Generation Factors in California, July 1974.

*** County of Santa Clara, Environmental Management Agency, Memo, October 29, 1980.

2. In addition to planning already completed, it is estimated that 6 to 8 years for planning and 2 years for construction of resource recovery facility will be required.
3. The resource recovery facility is assumed to be built on an **unfilled** 32-acre parcel - either Parcel A or B. If the parcel is **filled** prior to construction of the facility, the life of the landfill operation within the Study Area would be extended 15 years under Choices 1, 2, 3 and 4 and 6 years under Choices 5, 6 and 7.
4. Acquisition of a remote site must be guaranteed prior to development of any parcels to assure that the parcel will not be needed for further fill.
5. The lower limit of the range identifies the earliest year in which development of Parcel A or B could begin if a remote site has been acquired.

Construction of the resource recovery facility, depicted by a triangle at the point in time which it must begin operation, would be preceded by a planning and a construction phase. The planning phase includes all engineering studies and environmental assessment procedures as well as acquisition of funding needed to begin construction. It is estimated that this phase will not be completed until 1988 at the earliest. Construction is expected to require two years.

The final point in time at which a remote landfill site can be acquired and the size of the remote site that would be required to accommodate landfill needs to the year 2040 is indicated by a circle.

The type of development that could occur and whether it would be located on unfilled, filled or double-filled land is shown by bands of three different patterns. If a parcel is double-filled, only recreational development (Option 3) can be accommodated. If the site is filled as planned (single fill) or unfilled, Option 1 (mixed use), Option 2 (business park) or Option 3 (recreation) could be developed. However, construction on filled land will be more expensive than construction on unfilled land. The economic feasibility of developing the mixed use or business park options will depend on the value of the land at the time it is available for development. At the present time the additional cost of commercial construction on filled land is approximately equal to the cost of the land. Consequently, for filled land to be attractive to a developer relative to unfilled sites in the area, it would essentially have to be free. However, as the availability of land declines, the value of filled land will increase so that development of the land is likely to become more profitable.

Choices with Resource Recovery Facility

Choice I:

- o Landfill operation in Study Area to 2040 with double fill of Parcels A or B, C and D.
- o Construction of resource recovery facility on Parcel A or B by 1990.
- o No remote site required until 2040.
- o Development of Option 3 (recreation) in Parcels A or B, C and D.

This choice requires a decision regarding the location of the resource recovery facility prior to 1982 when fill of Parcel A is scheduled to begin. If the facility is sited on Parcel A, Parcel B should be filled from 1982 to 1988; if the facility is sited on Parcel B, Parcel A should be filled. From 1988 to

1990 (at which time the resource recovery facility begins operation) a 16-acre portion of Parcel C should be filled. Following construction of the resource recovery facility fill of Parcel C will continue at a slower rate through 2002. During the period the landfill plan approved by the R.W.Q.C.B should be ammended to allow double filling of Parcels A or B, C and D. The major concern, according to the R.W.Q.C.B. representative for Santa Clara County, will be stability of the fill, particularly during periods of seismic shaking.

Parcel C would be double filled from 2002 to 2022 at which time it could be developed for recreational use. Parcel D would be filled from 2022 to 2026 and double filled from 2026 to 2031 at which time it could be developed for recreational use. Parcel A or B - whichever has already been filled - would be double filled from 2031 to 2040, at which time it too could be developed for recreational use. Throughout this period the City should be searching for a remote site to be acquired prior to 2040 when it will be necessary to transport ash and noncombustible waste out of the Study Area.

Choice 1 allows for landfill operations in the Study Area to continue longer than under any other choice. However it limits development to recreational uses only.

Choice 2:

- o Landfill operation in Study Area to 2008 with single fill of Parcels A or B, C and D.
- o Construction of resource recovery facility on Parcel A or B by 1990.
- o Acquisition of a 267-acre remote site by 2008.
- o If resource recovery facility is sited on Parcel A, development of Option 1 (mixed use) or Option 2 (business park) on Parcels C and D and Option 3 (recreation) on Parcel B; or

If resource recovery facility is sited on Parcel B, development of Option 3 (recreation) on Parcels A, C and D.

This choice requires the same series of actions as Choice 1 through the year 2003 at which time Parcel C would have been filled. From 2003 through 2008 Parcel D would be filled, completing the fill operations in the Study Area under this choice. A remote site of 67 acres would have to be acquired by 2008 to accommodate solid waste disposal through 2040. If the remote site were acquired prior to 2008, development of some of the parcels could begin sooner since acquisition of the remote site would guarantee that double filling of those parcels would not be required. Parcels A or B

could be developed as early as 1988, Parcel C in 2003 and Parcel D in 2008.

If the resource recovery facility is sited on Parcel B - in the middle of the Phase II development area - development of Parcel A, C and D would be limited to Option 3 (recreation) in order to avoid adverse impacts from the facility on residential or commercial development. If the facility were placed on Parcel A - on the edge of the Phase II development area - Option 3 could be developed on Parcel B to create a buffer and Options 1 or 2 could be developed on Parcels C and D.

This choice allows for landfill operation in the Study Area to continue beyond the date currently planned (2004) and for land development to occur as well. The economic viability of development will, of course, depend on the value of land relative to both the increased cost of construction on fill and the cost of the remote site acquisition and transport of waste to it.

Choice 3:

- o Landfill operation in Study Area to 1990 with double fill of Parcel B.
- o Construction of resource recovery facility on Parcel A by 1990.
- o Acquisition of a 105-acre remote site by 1990.
- o Development of Option 3 on Parcel B and Option 1 and 2 on Parcel C and D.

This choice would leave Parcels C and D unfilled and available for development in the near-term future. To cover the cost of remote site acquisition and operation for the 50-year period from 1990 to 2040, it would probably be necessary to develop Parcels C and D fairly intensively according to Option 1 or 2. This would require that the resource recovery facility be located on Parcel A with Parcel B developed as a recreational buffer - for example, a 9-hole executive golf course.

Parcel B would be filled from 1982 to 1988 during the planning of the resource recovery facility and the search for a remote site.

Parcel B would be double filled from 1988 to 1990 during construction of the resource recovery facility. A remote site would have to be acquired by 1990 in order for development of the filled Parcels C and D to occur. If the remote site were not acquired on schedule, fill operations within the Study Area would have to continue according to Choice 1 or 2.

Choice 4:

- o Landfill operation in the Study Area to 1996 with single fill of Parcels A or B, C and D.
- o Construction of resource recovery facility on Parcel A or B by 1996.
- o Acquisition of a 92-acre remote site by 1996.
- o Development of Options 1, 2 or 3 on Parcels A or B, C and D.

This choice would proceed for the first six years in the same manner as Choices 1, 2 and 3. In 1988, however, when construction of the resource recovery facility would begin under the other choices, Choice 4 assumes that the construction phase does not occur due to the lack of funding or failure to meet air quality standards. Construction would not be completed until 1996 at which time Parcels A or B, C and D would have been filled and a 92-acre remote site acquired. Parcels A or B, C and D could then be developed as in Choice 2.

Choices Without Resource
Recovery Facility

If the City decides to forego construction of a resource recovery facility Choice 5, 6 and 7 are available.

Choice 5:

- o Landfill operation in Study Area to 1992 with single fill of Parcels A and B.
- o Acquisition of a 288-acre remote site by 1992.
- o Development of Options 1 or 2 on Parcels C and D; development of Options 1, 2 or 3 on Parcels A and B.

This choice calls for filling of Parcels A and B at a rate of 6 acres per year from 1993 and development of unfilled Parcels C and D and filled Parcels A and B subsequent to acquisition of the remote site.

The unfilled parcels would be developed intensively as mixed use (Option 1) or a business park (Option 2). The filled parcels could be developed intensively but, given the intensity of development on Parcels C and D, would be more appropriately developed for recreational uses.

Choice 6:

- o Landfill operation in Study Area to 2002 with single fill of Parcels A, B, C and D.
- o Acquisition of a 228-acre remote site by 2002.
- o Development of Options 1, 2 or 3 on Parcels A, B, C and D.

This choice consists of filling Parcels A and B from 1982 through 1988, filling Parcels C and D from 1988 through 2002, acquiring a 228-acre remote site by 2002 and developing all parcels subsequent to acquisition of the remote site and completion of fill operations.

If the remote site has been acquired at the time fill operations on Parcel A or B is completed in 1987, the development process for that parcel could begin in that year. Similarly, the development process for the next parcel filled (Parcel A or B) could begin in 1993 and for Parcel C in 2001.

Choice 7:

- o Landfill operation in Study Area to 2020 with double fill of Parcels A, B, C and D.
- o Acquisition of a 120-acre remote site by 2020.
- o Development of Option 3 on Parcels A, B, C and D.

This choice consists of filling and double filling all parcels in the Phase II development area with acquisition of a remote site by 2020 when the fill operation is completed. The sequence of fill can be designed to allow for recreational development of one or another of the parcels earlier than 2020.

Summary Comparison of Choices

In summary, Choices 1 and 7 maximize the life of full operations in the Study Area but limit development to recreational uses. Choices 3 and 5 maximize income to the City from the development of the Phase II development area but also maximize costs to the City for solid waste management - for acquisition and operation of a remote landfill site. Choices 2, 4 and 6 provide a middle road, allowing for development on filled land which will provide less income to the City than development on unfilled land (Choices 3 and 5) but will also shortening the life of fill operations relative to Choices 1 and 7. Table 2 provides a summary comparison of the choices with respect to: life of fill operations in the Study Area, Phase II development opportunities, and size of remote site acquisition.

Recommendations

1. Given the uncertainty involved in acquiring and operating a remote site the primary recommendation is that the life of landfill operations within the Study Area be maximized. If other factors do not constrain development the commercial development potential lost to the City by not developing the Phase II area intensively can be transferred to the Phase I area of the North Subarea and to the Southwest Subarea by increasing the intensity of use in those areas.

2. The resource recovery facility should be sized to allow for a concurrent recycling program and/or the City should plan to absorb solid waste from neighboring communities as its own waste stream decreases as a result of recycling and more efficient use of resources. This could provide additional income to the City to help pay for the facility.

NOISE ENVIRONMENT

Aircraft Noise

Aircraft noise is the principal contributor to the overall noise level in the Study Area. According to the San Jose Municipal Airport Master Plan EIR noise contour mapping "is best used for comparative purposes rather than for providing absolute values... CNEL calculations are merely a means for comparing noise impacts, not precisely defining them relative to specific parcels of land."

CNEL Measure

The Community Noise Equivalent Level (CNEL) noise descriptor, the use of which is required by the State of California in its airport noise standards, predicts, by a single number rating, the cumulative aircraft noise that affect communities in airport environs. CNEL represents the daily weighted average sound level in decibels during a 24-hour period, adjusted to account for the sensitivity of people to noise during the evening (7 p.m. to 9:59 p.m.) and night (10 p.m. to 6:59 a.m.) periods.

CNEL 65 is, according to California airport noise standards, the level of noise acceptable to a "reasonable" person residing in the vicinity of an airport. CNEL 75 is considered to be unsuitable for most types of urban development. The CNEL contour affects the southern portion of the residential area west of Lafayette Street.

Noise level projections for 1997 assume implementation of measures established by the Airport Master Plan and Vicinity Area Actions to mitigate the noise impacts and the use of quieter aircraft such as the DC-9-80 which have recently been introduced at the San Jose Airport. Although aircraft will be quieter, flights will be more frequent with 1997 passenger service projected at 370% and freight at 220% of 1975 levels of service, resulting in an overall increase in noise levels. The CNEL 75 contour is not expected to affect the site. the CNEL 70 contour is expected to impact the same residential area affected by the 1980 CNEL 70 contour and the wouthwest corner of the Agnews Hospital site (currently undeveloped). The CNEL 65 contour would extend north to Highway 237, on the west side of Lafayette Street it encompasses all existing residential development south of Tasman Drive, all of the undeveloped land south of Tasman Drive and nearly half of the City-owned land north of Tasman. On the east side of Lafayette Street, the existing Agnews State Hospital facility, proposed Hope Rehabilitation Center and the subdivision south of the Hetch Hetchy Aqueduct are included along with a few parcels north of the Aqueduct. (See Preliminary Assessment.)

SEL Measure

The County of Santa Clara Department of Health has recently proposed amending the present State of California guidelines regarding the acoustical performance for new residences within the noise impact boundary. The proposed regulations would substitute the Single Event Level measure for new residential construction; "Because of the relatively low number of daily over-flights, a new home, condominium, or apartment may meet the 45 dB CNEL (interior) requirement but experience inside single event levels in excess of 65 dBA."* The proposed amendments to the existing State standards would apply to all new residential construction.

City's Investigation

In light of the uncertainty of the impact to the community, the City has engaged the services of a noise consultant to assess the potential impact on future residents of the projected noise from the aircraft. This investigation is forthcoming.

Recommendation

The consultant team recommends that the City wait for the forthcoming Noise Assessment before approving any residential development in the Fairway Glen Subarea. However, conclusive evidence regarding potential health and safety impacts are not likely to substantially alter the existing body of research upon which the present community standards are based.

Finally, Noise Insulation Standards might be imposed to help mitigate the aircraft noise on the interiors of any new residences.

*Starkey, Gerald E. Santa Clara County Health Dept. "Request for Public Comment Concerning Subchapter 6, Airport Noise Standards." April 29, 1981.

IV. PREREQUISITE PUBLIC IMPROVEMENTS

TRANSPORTATION REQUIREMENTS

The complete traffic analysis for the proposed development alternatives is reproduced in Volume 4, "Traffic Analysis." This section excerpts the critical findings as they relate to improvements necessary to accommodate the increased traffic generated by the development alternatives.

Figure 13, Traffic Network and Transit Corridor, shows the basic street patterns that service the Study Area. the proposed Guadalupe Transit Corridor is indicated as it appears in the current planning documents regarding that proposed facility. The areas shown with the gray tone, represent the locations of the proposed development. And the proposed interior subarea circulation patterns are shown with a dashed line.

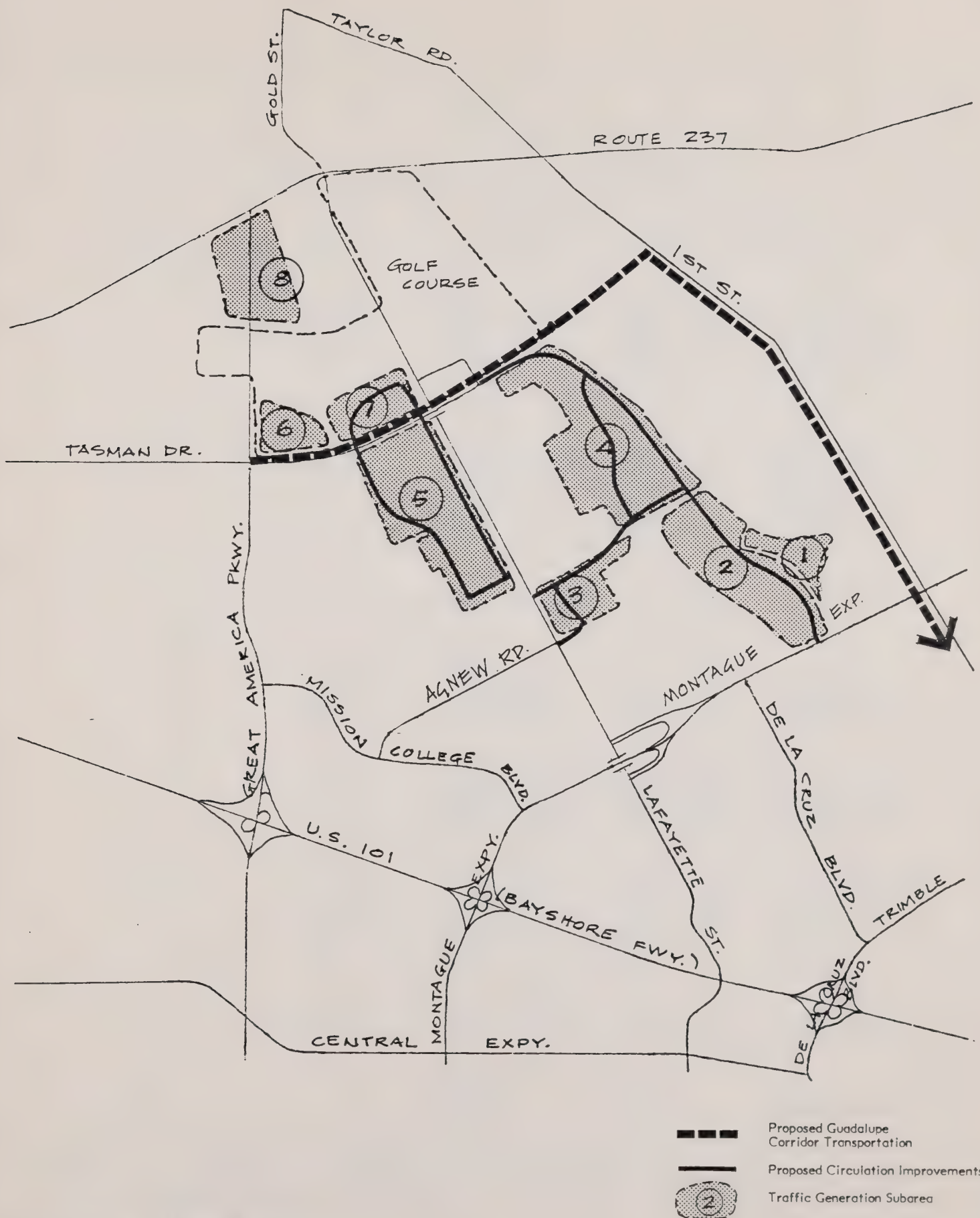
Table 4 is a comparison of the two-way daily traffic volumes, by road segment, for the Phase I development alternatives: A, B, and C. Table 5 is a comparison of added P.M. peak-hour traffic volumes by road segment and intersection, for the Phase I development alternatives.

Study Area Circulation Improvements

The new roads required to service the proposed development are indicated on Figure 13. These improvements are ordinarily a part of the pre-development costs borne by the developer. The land use plans have established their general location and points of connection to the existing street pattern. These new roads will interconnect with Tasman Drive, Lafayette Street, and the Montague Expressway and do not directly connect with any existing residential street.

Areawide Circulation Improvements

Figures 14 through 16 are schematic representations of the required traffic capacity on the areawide circulation pattern. Specifically affected by the proposed Phase I development are Great America Parkway, Tasman Drive, First Street and Highway 237. The three figures show the relative number of lanes that would be required to support the proposed land use alternatives. For example, a heavy line indicates that one lane is required just to carry the proposed new development for a particular alternative. A double heavy line indicates that 2 lanes (in each direction) would be required just to carry the proposed new development. Similarly, the intersections are shown to require either one turning lane to carry the proposed new development and a double circle indicated the need for an even larger intersection configuration.



TRAFFIC NETWORK AND TRANSIT CORRIDOR

GUADALUPE WEST PLANNING STUDY City of Santa Clara, California

SEDWAY/COOKE
SAN FRANCISCO



TABLE 4

COMPARISON OF TWO-WAY DAILY TRAFFIC VOLUMES,
BY ROAD SEGMENT, FOR 1990 ALTERNATIVES

Road Segment	Existing ADT	Added AWT & (Percent Increase)		
		A	B	C
Rte. 237:				
1	38,000	6,500 (17%)	6,000 (15%)	3,500 (9%)
2	-	7,000	4,000	5,500
3	38,000	8,500 (22%)	5,500 (14%)	7,000 (18%)
4	-	21,500	20,500	27,500
Tasman:				
5	-	7,500	7,500	8,500
6	6,938	23,000 (331%)	24,500 (353%)	20,000 (288%)
7	-	20,000	23,500	24,000
8	-	22,500	25,000	33,500
9	-	15,500	18,000	26,500
Lick Mill:				
10	7,676	1,500 (20%)	1,500 (20%)	1,500 (20%)
Montague:				
11	-	2,500	0	0
12	34,559	1,000 (3%)	1,500 (4%)	2,000 (6%)
13	28,000	1,500 (5%)	1,500 (5%)	1,500 (5%)
G.A. Pkwy.:				
14	11,737	13,500 (115%)	10,000 (85%)	9,000 (77%)
15	9,716	11,500 (118%)	10,000 (103%)	15,000 (154%)
16	8,454	14,000 (166%)	13,000 (154%)	4,000 (47%)
Lafayette:				
17	13,522	1,500 (11%)	1,500 (11%)	1,500 (11%)
18	15,723	8,000 (51%)	6,500 (41%)	6,500 (41%)
19	-	6,500	5,000	5,000
20	-	3,000	3,500	3,000
De La Cruz:				
21	7,000	2,500 (36%)	3,000 (43%)	3,500 (50%)
Ist:				
22	-	13,000	15,000	20,500
23	-	2,500	3,000	6,000

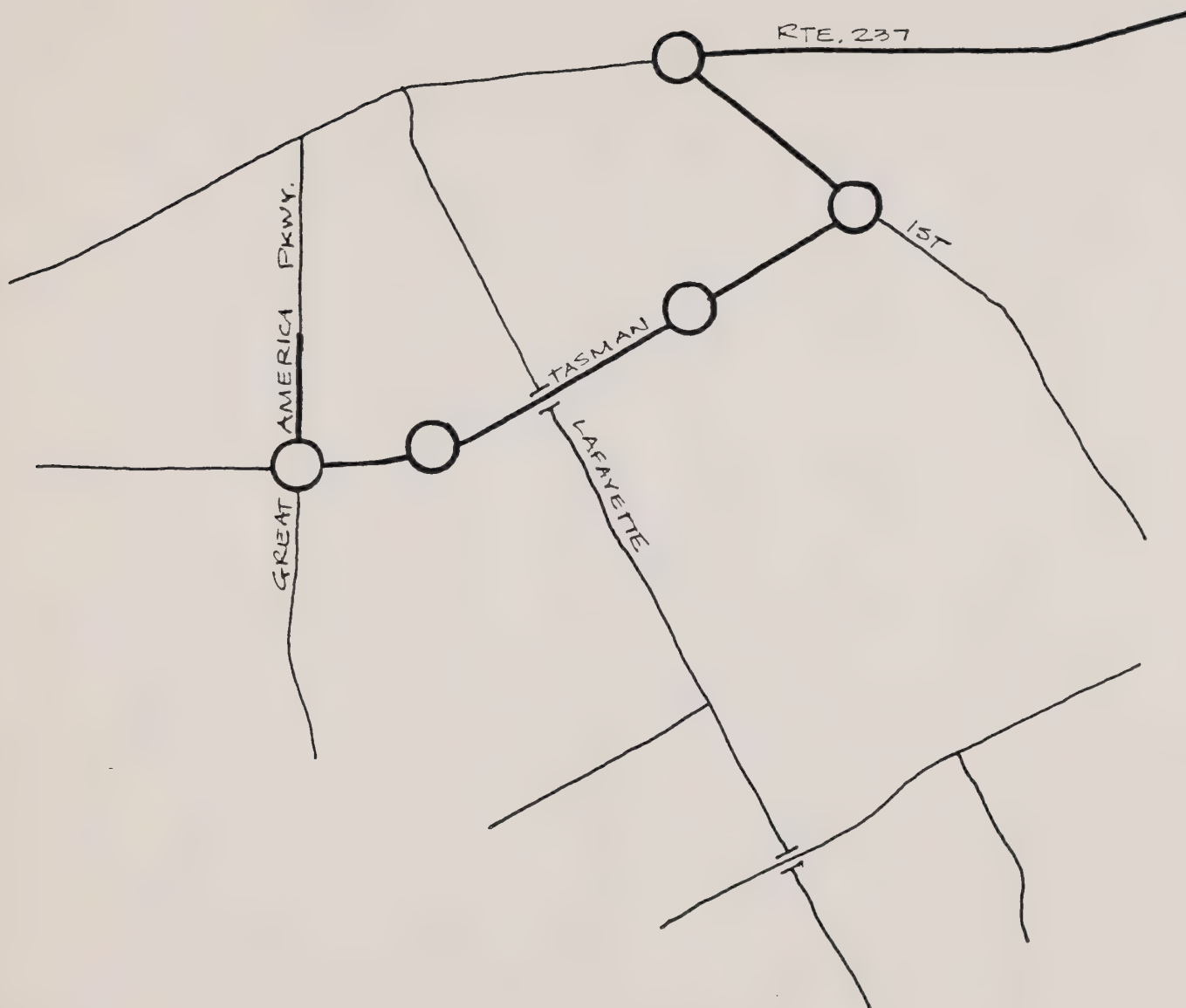
Source: Conradt, Rober. Guadalupe West Planning Study Traffic Analysis, 1981. (See Appendix A)

TABLE 5

COMPARISON OF ADDED P.M. PEAK-HOUR TRAFFIC VOLUMES
BY ROAD SEGMENT & INTERSECTION, 1990 ALTERNATIVES

Road Segment Or Intersection			Added Peak-Hour Vol. & (Add'l. Lanes Needed)					
			A		B		C	
Rte. 237:								
	1	A	400	(.3)	450	(.3)	400	(.3)
			650	(.4)	600	(.4)	400	(.3)
	2	B	450	(.3)	550	(.4)	550	(.4)
			800	(.5)	750	(.5)	600	(.4)
	3	C	550	(.4)	650	(.4)	650	(.4)
			1,300	(.9)	1,150	(.8)	1,050	(.7)
	4		1,650	(1.1)	2,150	(1.4)	2,800	(1.9)
Tasman:								
	5	D	550	(.4)	550	(.4)	550	(.4)
			1,250	(.8)	1,400	(.9)	1,150	(.8)
	6	E	1,300	(.9)	1,700	(1.1)	1,550	(1.0)
			1,000	(.7)	1,550	(1.0)	1,400	(.9)
	7	F	1,750	(1.2)	1,750	(1.2)	3,000	(2.0)
			2,000	(1.3)	2,550	(1.7)	3,400	(2.3)
	8		1,650	(1.1)	2,300	(1.5)	3,050	(2.0)
	9		1,400	(.9)	1,950	(1.3)	2,800	(1.9)
Lick Mill:								
		G	1,100	(.7)	1,500	(1.3)	2,150	(1.4)
	10		150	(.1)	150	(.1)	150	(.1)
Montague:								
	11	K	200	(.1)	50	-	50	-
			50	-	100	(.1)	150	(.1)
	12		50	-	50	-	50	-
			150	(.1)	150	(.1)	150	(.1)
	13							
G.A. Pkwy:								
		L	150	(.1)	150	(.1)	150	(.1)
	14		800	(.5)	1,000	(.7)	950	(.6)
	15		850	(.6)	900	(.6)	750	(.5)
	16		800	(.5)	800	(.5)	400	(.3)
Lafayette:								
	17	H	100	(.1)	100	(.1)	100	(.1)
			400	(.3)	250	(.2)	250	(.2)
	18	J	600	(.4)	400	(.3)	400	(.3)
			600	(.4)	400	(.3)	400	(.3)
	19		450	(.3)	250	(.2)	250	(.2)
	20		250	(.2)	250	(.2)	250	(.2)
DeLaCruz:								
	21		150	(.1)	150	(.1)	200	(.1)
Ist:								
	22		1,100	(.7)	1,500	(1.0)	2,150	(1.4)
	23		300	(.2)	450	(.3)	650	(.4)

Source: Conradt, Rober. Guadalupe West Planning Study Traffic Analysis, 1981. (See Appendix A)



Alternative A

Road Segments & Intersections

Requiring An Equivalent Traffic Lane

(In Each Direction)

For Pk-Hr. Traffic Added By Proposed Development



Alternative B

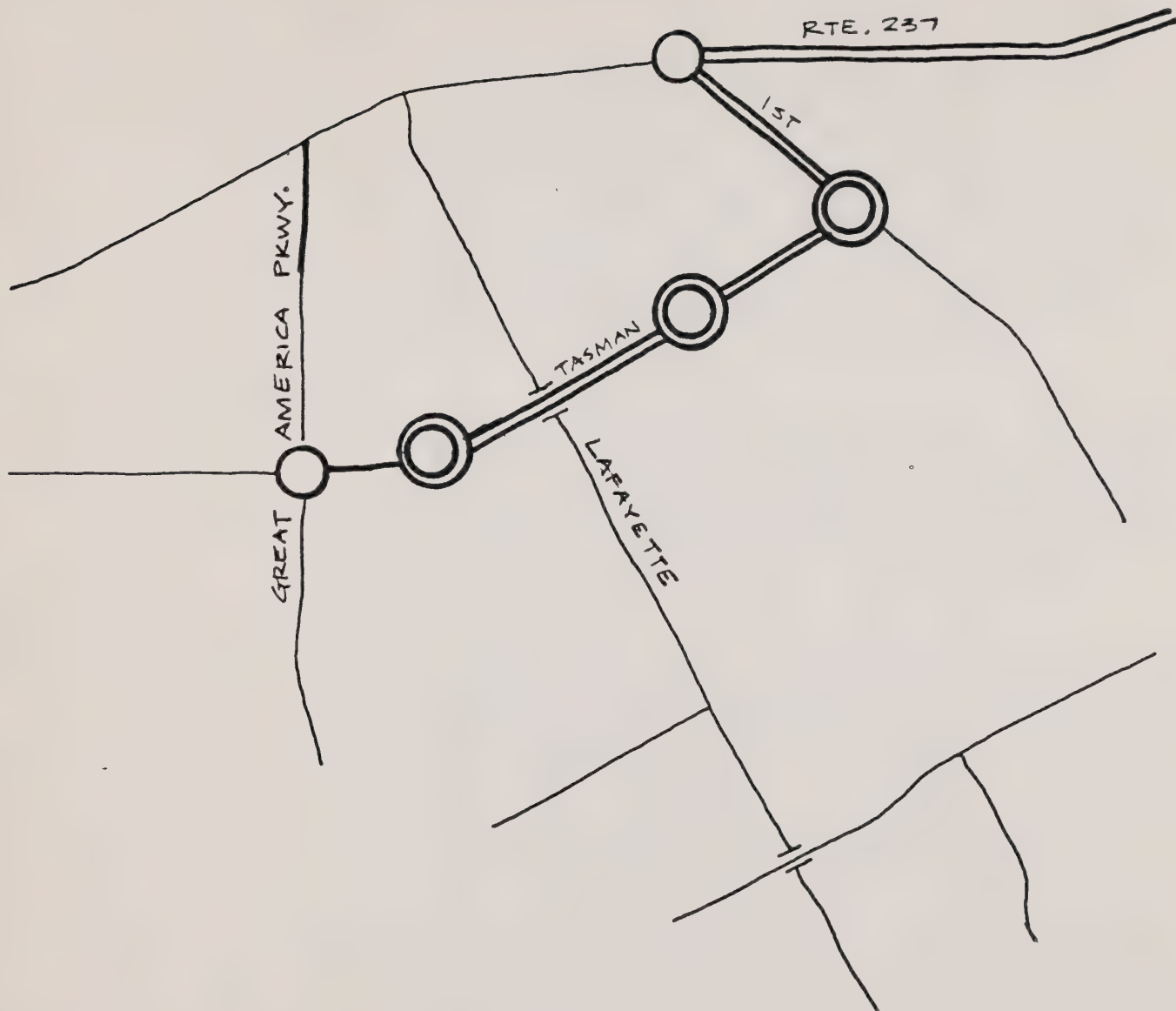
Road Segments & Intersections

Requiring One Or More Equivalent Lanes

(In Each Direction)

For Pk-Hr. Traffic Added By Proposed Development





Alternative C

Road Segments & Intersections

Requiring One Or More Traffic Lanes

(In Each Direction)

For Pk-Hr. Traffic Added By Proposed Development

Phase I Traffic Impacts

As the figure show, the least impact can be expected from Alternative A and the greatest impact from Alternative C. However, since Great America Parkway, and Tasman Drive presently have underutilized capacity, no change in the roadway configuration of these two streets is required for any alternative. The development can be served by providing turn lanes at the indicated intersections, and by restriping a portion of Tasman Drive to provide for three lanes of traffic in each direction. (At the critical section - at the Lafayette Street overcrossing - Tasman Drive has 38 feet of pavement on each side of a median). It is important to note, though, that utilizing the entire Tasman Drive capacity for automobile traffic will necessitate a separate adjacent right-of-way for the Guadalupe Corridor transit facility.

Required Construction

For each of the Phase I alternatives it is essential to complete the Tasman Drive connection across the Guadalupe River and to North First Street in San Jose. (A separate estimate for the cost of the bridge construction has been included in Appendix A and also is shown later in this report under the heading of Estimated Pre-Development Costs).

Highway 237

Highway 237 remains the most significant traffic constraint of any of the Phase I development alternatives. Under Alternative A, one additional lane would be required in each direction between North First Street and Highway 17. Under both Alternatives B and C, two additional lanes would be required for this segment. Current estimates run between \$40 and 50 million for the total improvement costs to raise all of Highway 237 to freeway capacity between Highway 17 and the Bayshore Freeway. The direct impacts on 237 due to Phase I development cannot be ignored, but the resolution of the traffic problems on 237 cannot be limited to the Guadalupe West Study Area or even to Santa Clara. Alternative ways of financing a portion of the freeway improvement costs are discussed in the companion Economic Evaluation.

Phase II Traffic Impacts

Options 1 and 2, which include large business parks, would have very heavy impacts on Route 237 and Great America Parkway and would require the equivalent of more than two additional traffic lanes beyond the requirement of Phase I development in each direction in some portions of those highways. Option 3, which is recreational development, would have no significant impact on the road system.

Guadalupe Corridor Connection

The traffic analysis has assumed the following reductions in vehicle trips due to the use of the proposed Guadalupe Corridor facilities:

- 5 percent of daily trips and 10 percent of peak-hour trips in Route 237, Great America Parkway and Montague Expressway corridors.
- 10 percent of daily and 15 percent of peak-hour trips in the First Street and Lafayette Street corridors.

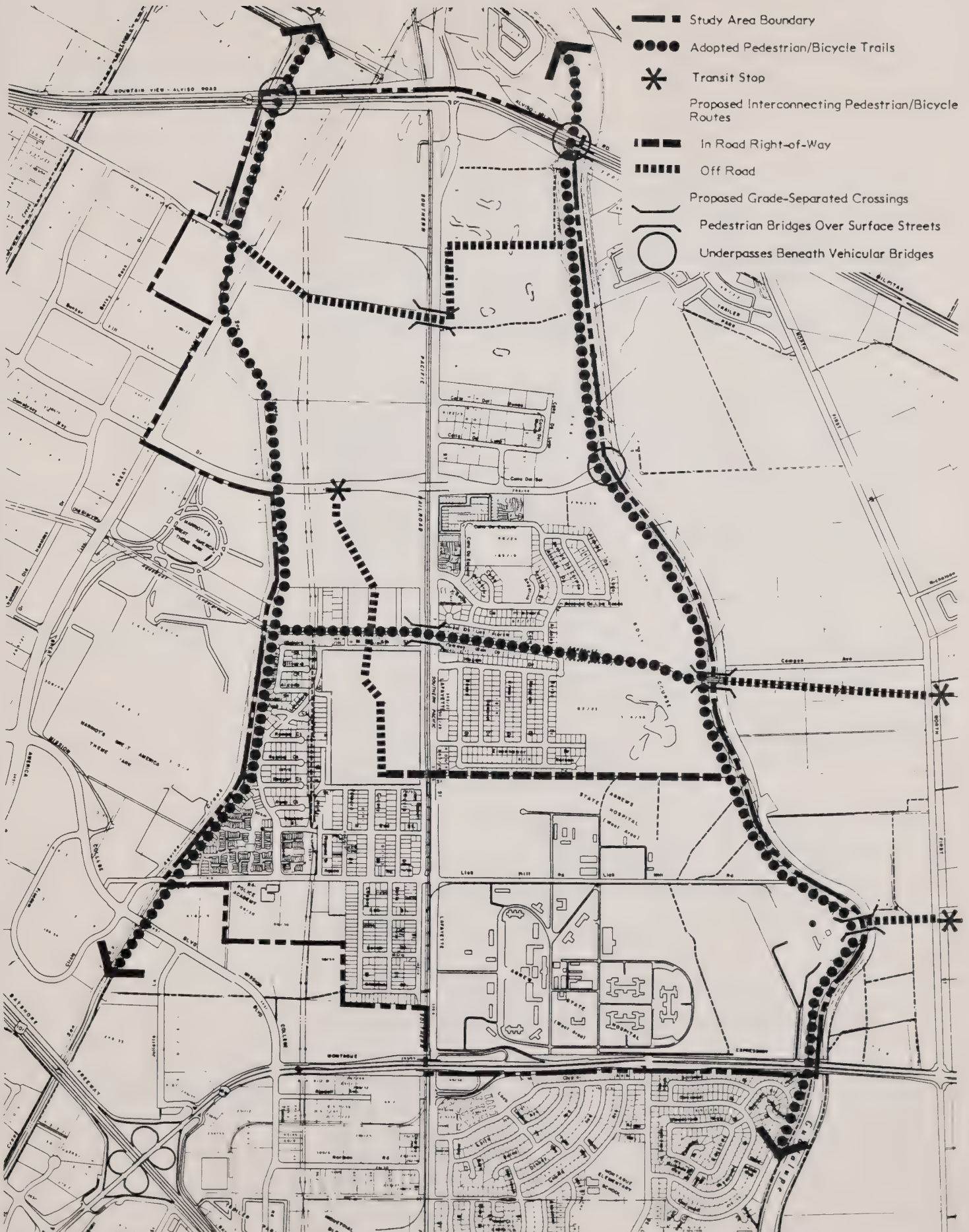
These assumptions are in line with the estimated modal split within this traffic generation superzone that is used in the patronage forecasts in the Guadalupe Corridor computer modeling. This relatively low patronage forecast will not substantially alter traffic impacts in the event the corridor improvements are delayed. The more likely event, is a somewhat higher patronage of transit, particularly if the arena and convention center alternatives are implemented.

Pedestrian/Bicycle Paths

Figure 17 illustrates the pedestrian and bicycle paths proposed for the study area. The Guadalupe River, San Tomas Creek, and Hetch-Hetchy Aquaduct right-of-way corridors are already in the Santa Clara General Plan. This proposal will implement these adopted plans. Along all but the southern leg of San Tomas Creek, these trails will be adjacent to new development under every alternative. It is recommended that the first costs for these improvements be borne directly by the adjacent development. The costs for these public amenities has been calculated and are shown in Appendix B. The costs have been included in the calculus for financial return on these particular developments.

Maintenance costs for these public amenities can be assumed either directly by the City Department of Parks and Recreation or by some assessment district formed by the Guadalupe West Study Area. (See the companion Economic Evaluation).

Two additional pedestrian and/or bicycle paths are noted on Figure 17. As described in the Land Use section of this report, these will be either incorporated into the private development or included in the public streets right-of-ways.



PEDESTRIAN/BICYCLE ROUTES

17

STORM DRAIN REQUIREMENTS

Existing System

The current storm drainage system serving the Study Area is depicted in Figure 18. It consists of two drainage basins, separated by Lafayette Street. The west basin is discharged into the San Tomas Creek at several points. At the northern end of the basin a detention pond allows for accumulation of runoff during periods of peak flow. This detention basin drains into the creek by gravity flow. The east basin is discharged into the Guadalupe River at a single point at the northern end of the basin.

An open drainage channel runs parallel to the river into a detention pond. The water in the pond must be pumped through the levee into the Guadalupe River. An informal detention pond is located in the southern portion of the site on the Fairway Glen Golf Course. This low-lying area accumulates overland flow during peak flow periods from adjacent areas to the south. During the 100 year storm, it is expected that the Study Area would receive overland flow from a larger tributary area reaching as far south as the Bayshore Freeway.

City Plans and Policies

The city has recently approved an assessment district within the Agnew's Village residential neighborhood in the Study Area to provide for street and storm drainage improvements. This neighborhood, one of the oldest in Santa Clara, will be improved to provide protection from the 10 year storm with an underground system. The 100 year storm will result in overland flow that will be directed north in to the Southwest Subarea of the Study Area.

It is city policy to provide for storm drainage improvements at the time of development. Ordinarily, these costs are borne by the individual developer. The city requires that the improvements include an underground system capable of carrying the 10 year storm and also to protect property improvements from the 100 year storm.

Since the Study Area lies at the low point for a larger tributary area, any improvements in the Study Area must finally provide for this 100 year storm overland flow.

Storm Drainage Concept

The storm drainage concept for the Study Area is subdivided into three major basins in order to disentangle the different components of proposed land utilization and permit the greatest flexibility in making land use decisions and phasing development. The three areas are:

- o North Subarea

- o Southwest Subarea including a larger tributary area to the south and including the Agnew's Village Assessment District Storm Drain Improvements.
- o Fairway Glen and Southeast Subareas including a larger tributary area to the south stretching to the Bayshore Freeway.

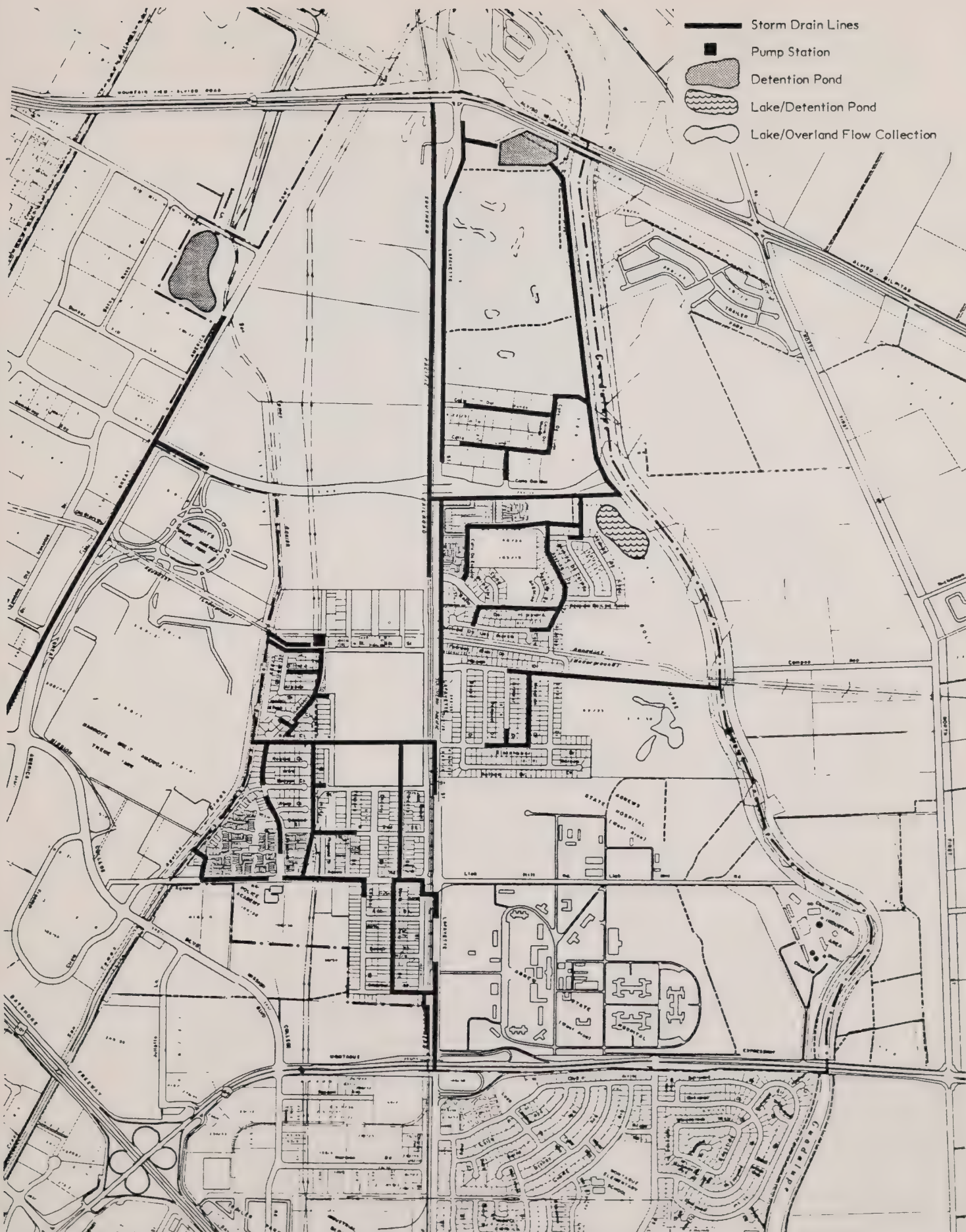
Northern Subarea

Separate storm drainage concepts were developed for the different land use alternatives proposed for the North Subarea. They differ primarily in the location of detention basins and the consequent requirements for pumping and boring under Lafayette Street and/or through the San Tomas Levee. For the different land use alternatives the range in costs to provide this storm protection is between \$1,062,000 to \$1,248,000. The difference between the various concepts explored is not sufficient to make a conclusive argument for a particular use. Instead, the final storm drainage concept for the North Subarea will likely evolve out of the detailed facility planning for the site that will result from a land use decision and precede the preparation of construction documents.

Alternative A

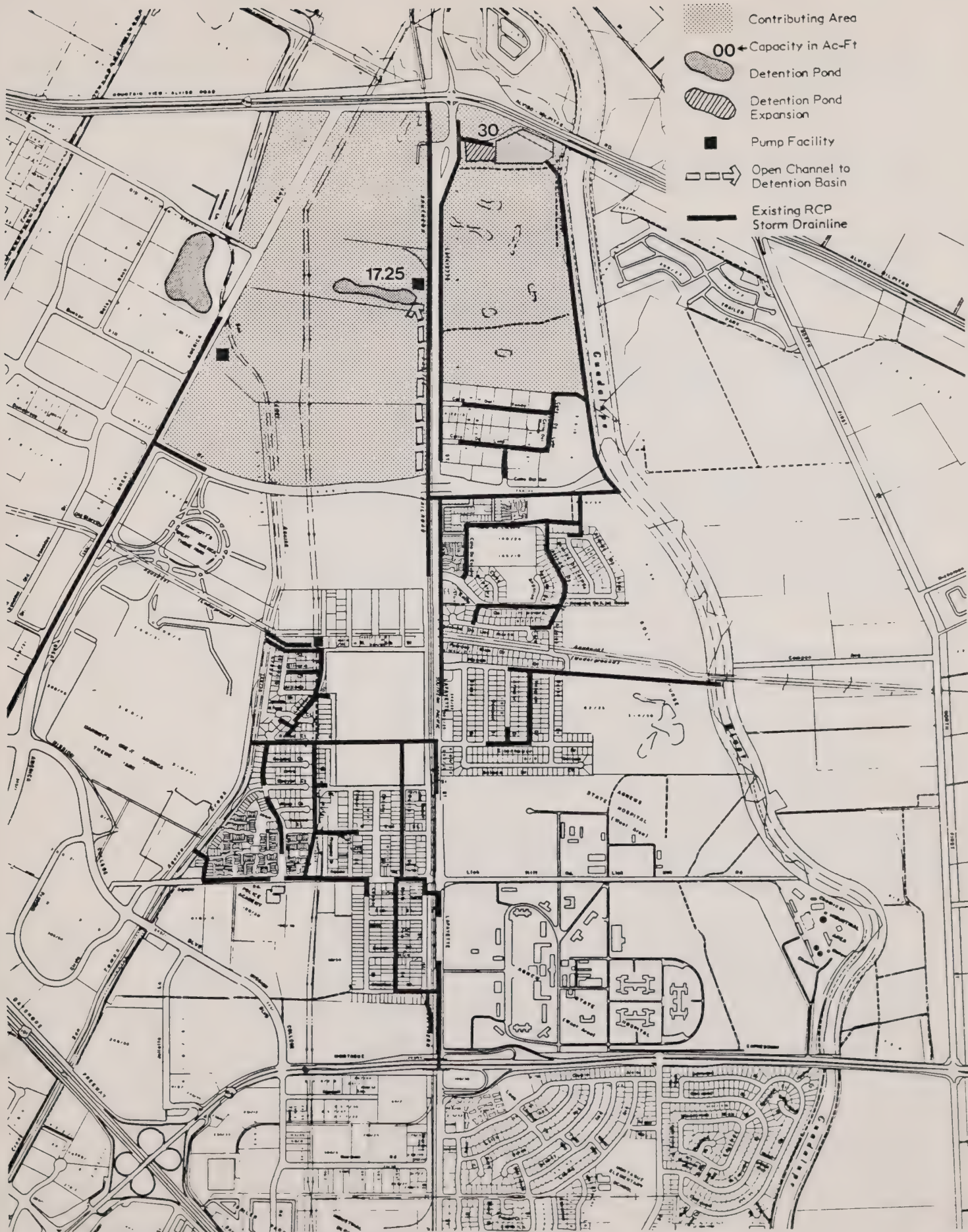
In land use Alternative A, with the arena facility, the storm drainage concept includes no detention on the west side of Lafayette Street (see Figure 19).

- The proposed underground system has been designed to carry the 10 year storm for the areas west of Lafayette Street and the 100 year storm for the 17 acre parcel west of Great America Parkway.
- Overland flow east of San Tomas Creek will be directed to the existing eastside detention basin to protect against the 100 year storm.
- In the arena/convention center complex at the corner of Great America Parkway and Tasman Drive, the 10 year storm will be collected in the proposed underground system and a new 10 cfs pump station will convey the flow into San Tomas Creek.
- The parking areas in the arena/convention center complex should be designed to contain the 100 year storm and the flow can then be pumped into San Tomas Creek when the Creek level subsides.
- NOTE: The existing eastside basin may require 30 Ac-ft. additional storage capacity. The cost for this expansion has been included in the estimates.



EXISTING STORM DRAINAGE SYSTEM

18



NORTH STORM DRAIN ALTERNATIVE CONCEPTS

GUADALUPE WEST PLANNING STUDY City of Santa Clara, California

SEDWAY/COOKE
SAN FRANCISCO 0' 250' 500' 1/4 MILE

Alternatives B and C

In land use Alternatives B and C, the storm drainage concept includes the construction of new detention basins west of Lafayette Street (see Figure 19).

- The proposed underground system has been designed to carry the 10 year storm for the areas west of Lafayette Street.
- Both the 10 year storm and the overland flow from the 100 year storm will be collected in a new 17.25 Ac-ft. detention basin that will be incorporated into the design of the golf course.
- The storm flow from the new westside detention basin will be pumped into the existing eastside detention basin via a new 50 cfs pump station located adjacent to the new basin.

The triangular shaped parcel at the corner of Great America Parkway and Tasman Drive can be served in a number of ways. The storm drainage analysis has evaluated three different options and assessed their cost implications. For each option, a proposed underground system has been designed to carry the 10 year storm. The various options explore ways of removing this flow from the parcel altogether.

- a) A separate 10 cfs pump station to San Tomas Creek, or
- b) A siphon under San Tomas Creek to the new westside basin and pumped to the eastside basin, or
- c) A separate 10 cfs pump station to San Tomas Creek and the west side basin pumped to San Tomas Creek.

Any of these suboptions would manage the expected storm water and the range in costs is not proportionally signified. The final on-site solution should follow more detailed development plans.

Southwest Subarea

The storm drainage concept for the Southwest Subarea is basically composed of a new detention basin adjacent to San Tomas Creek with a capacity of 30 Ac-ft. (see Figure 20). This facility will be integrated with a new 100 cfs pump that will connect to the adjacent Creek and also an overflow system to the existing Eastside detention basin. An underground storm drain will be connected to the existing 48" line within the development area and due east of Rambo Court. The point of connection is illustrated schematically in Figure 20. The proposed underground system shown in this figure is designed for the 10 year storm.

Agnew's village

The tie-in with the existing main will permit the recently approved Agnew's Village Assessment District Storm Drain Improvements to be integrated with the proposed land use development in the Southwest subarea. In addition to the 10 year storm protection provided by the underground system, provision has been made to direct via surface overland flow the 100 year storm from Agnew's Village (as well as adjacent tributary areas further south to the Bayshore Freeway) along the new street network in the Southwestern Subarea. This overland flow can be directed to the northeastern corner of this subarea where it will enter a pipe beneath the Tasman Drive overcrossing adjacent to the Southern Pacific rail road tracks. This overland flow can then enter an open channel to traverse the proposed golf course development and then ultimately to the existing northeast detention basin. In order to prevent any potential flood damage to proposed development in the Southwest Subarea from concentration of the 100 year storm, it is recommended that the parking lots in the northeastern corner of the subarea be designed to contain this peak overland flow.

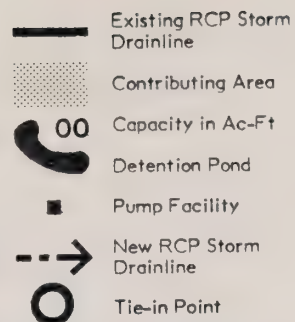
Fairway Glen and Southeast Subareas

The storm drainage concept for the Fairway Glen and Southeast Subareas involve an integrated system for on-site collection for the 10 year storm with on-site detention ponds plus pump combination for the 100 year storm for each of the four major proposed developments. The 100 year storm will overflow in streets to on-site detention ponds (see Figure 21).

- Fairway Glen: An 11 Ac.-ft. storage plus 20 cfs pump to the Guadalupe River.
- Hope Industries: A 5+ Ac.-ft. storage plus 10 cfs outflow to the Fairway Glen detention pond.
- Agnews Development: An 8 Ac.-ft. storage plus pump discharge to the Guadalupe River.
- Lick Mill: Storage plus pump discharge to the Guadalupe River.

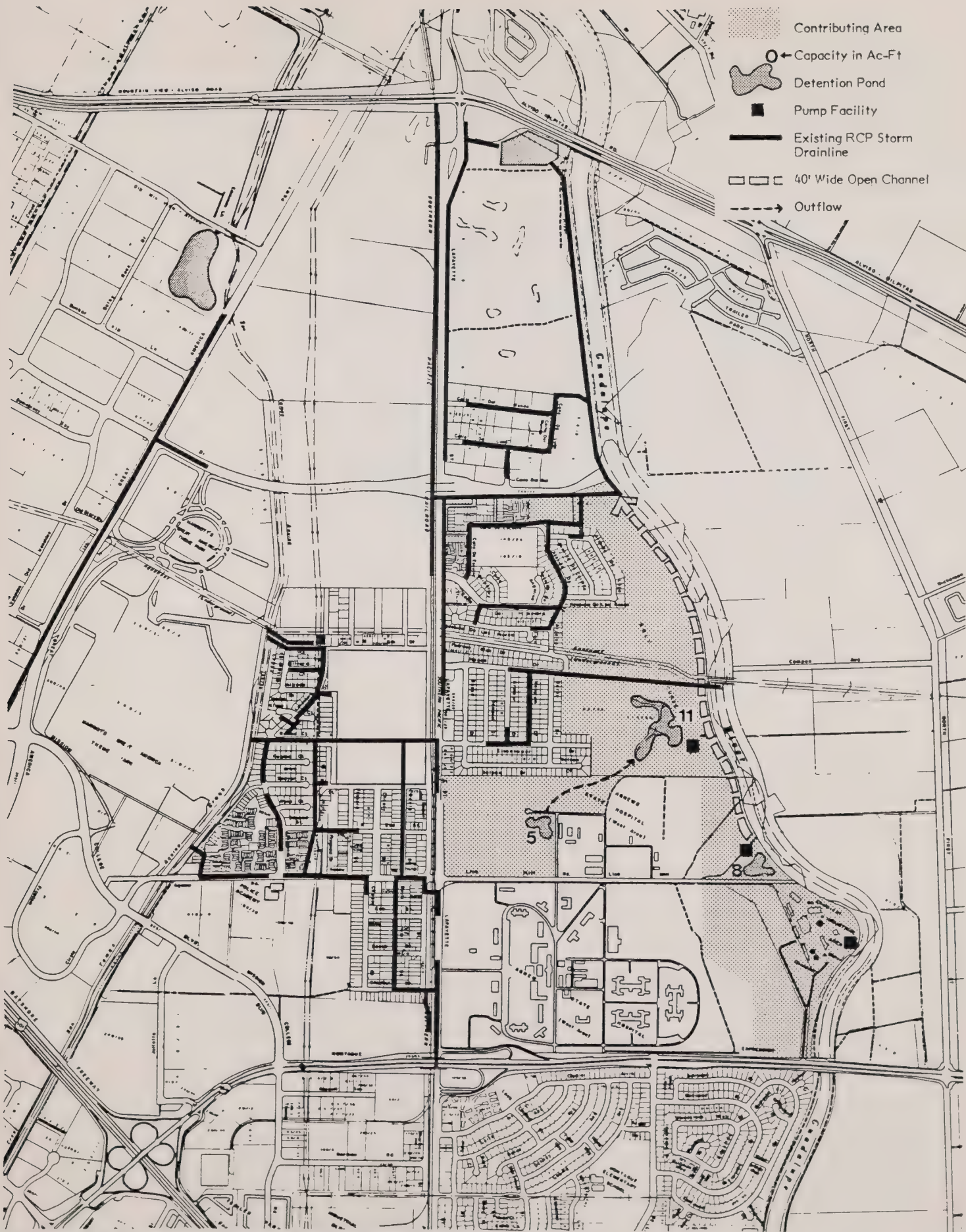
South of Montague

At the present time, water collects in the Southeast quadrant of the Study Area from a large tributary area. In the 100 year storm, water from south of Montague expressway (all the way to Bayshore Freeway) will concentrate on the streets and drain to this undeveloped portion of the Study Area. To provide protection for any new development from the 100 year storm, it will be necessary to collect and direct the storm flow from this larger tributary area. The overland flow from south of Montague will be carried either in three 48" pipes at a cost of \$1,300,000 or in an open channel at a cost of \$300,000 through the Fairway Glen golf course area to the eastside detention basin at the northeast portion of the Study Area. The open channel would



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SEDWAY/COOKE
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FAIRWAY GLEN & SOUTHEAST STORM DRAIN CONCEPT **21**

GUADALUPE WEST PLANNING STUDY City of Santa Clara, California

SEDWAY/COOKE
SAN FRANCISCO



require a width of 40 feet to accommodate a trapezoidal cross-section. The open channel can be landscaped with lawn and incorporated into the Guadalupe River trail system to provide additional recreational open space adjacent to the river.

Development Phasing

It is difficult to project the likely development phasing for the Southeastern subareas since so many different developers will be involved. If development occurs at the Fairway Glen site first, then adequate provision can be made to accommodate the storm drain improvements to service the entire tributary area. More likely, however, Hope Industries or the Agnews State Hospital residential development program will precede any development on Fairway Glen. In this event, it is anticipated that the present low-lying area within the golf course adjacent to the southern most lakes will continue to serve informally as the detention basin for the 100 year storm. In addition, the Hope Industries detention basin can be linked to the lakes to assure protection against the 10 year storm on that site without the need for a pump station.

SANITARY SEWERS AND WASTEWATER TREATMENT

The San Jose-Santa Clara Water Pollution Control Plant is owned jointly by the two cities. Capacity is leased to other municipalities in Santa Clara County. The plant was originally designed to accommodate a flow of 143 million gallons per day (MGD). However, subsequent to the upgrading of its treatment capability in 1974, the facility has reached capacity at only 130 MGD, during the 1979 canning season.

143 MGD Design Capacity

The EPA has committed a federal grant as a first step toward bringing the plant up to its design capacity of 143 MGD. To avoid the imposition of a moratorium on new hookups by the State Water Quality Control Board in the interim the City of San Jose adopted the following measures:

- o an ordinance prohibiting the issuance of building permits for new construction that would overload the plant;
- o an ordinance calling for voluntary reductions in sewage outflow from major industries when an overload is threatened and, if that fails, mandatory cutbacks with noncompliance resulting in fines of up to \$50,000 per day;
- o A citywide water conservation plan.

160 MGD Upgrading

In addition to upgrading plant capacity to 143 MGD San Jose and Santa Clara have proposed a plan for increasing capacity to 160 MGD. That plan calls for the establishment of a joint powers agreement (JPA) between San Jose and Santa Clara that would establish an agency empowered to sell bonds to finance the expansion. The JPA must be authorized by the State legislature; SB 103 has been introduced to obtain this authorization and is expected to be approved. This funding would be used to expand the existing plant, to build a chlorine storage facility and waste storage ponds, and to build sludge treatment facilities.

Timetable

The timetable for the plan calls for State authorization by March 1981; public hearings regarding increased rates and connection fees in April 1981; sale of JPA bonds by November 1981; completion of plans by July 1982; and completion of construction by August 1983.

Growth Allocation

At the plant's current operating capacity Santa Clara is forced to lease capacity back from other users in order to meet its demand. Even after the plant is upgraded to 143 MGD Santa Clara will still exceed its allocation and continue to lease capacity from other users. The planned expansion to 160 MGD is expected to provide capacity adequate to 1990, assuming a growth rate of 15 to 17 percent between 1980 and 1990, based on historical growth trends in Santa Clara.

The 15 to 17 percent growth rate appears to correspond with growth policies in the 1977 General Plan, assuming buildout of undeveloped land designated for residential commercial and industrial development. The Guadalupe West Study Area is not designated as undeveloped land in the General Plan and, therefore, not included in the General Plan growth projection. Consequently, if both the development projected in the General Plan and development of the Study Area occur, available sewage capacity may again be exceeded.

Force Main

The sewer main along Lafayette Street is designed to accomodate flows from the entire central portion of the city. However, the southern half of the city's central area is discharged via a sewer line running east which connects to the City of San Jose's sewer main to the Water Pollution Control Plant. This route is preferred since it flows by gravity while the Lafayette Street sewer main must be pumped to the plant.

Planned Allocation

However, if the eastern portion of Santa Clara (the downtown area) is redeveloped at a higher intensity of use, the east line will have to be used for that area's increased discharge and the Lafayette Street main will transport the entire central area. The Lafayette Street main was designed to accomodate the central area assuming the development of the Study Area at the following densities and land use patterns: in the area north of the Hetch Hetchy Aqueduct, 651 acres of industrial development at 30 persons per acre, each producing 75 gallons of wastewater per day and 104 acres of residential development at 18 persons per acre,* each producing 75 gallons per day for a total discharge of 5.14 MGD. The area south of the aqueduct is assumed to be developed for residential use at a density of 18 persons per acre.

Requirements of Proposed Land Use

The proposed land use intensity for even the most extensive development, Alternative C, is less than that allocated to the Study Area by the city in its long range plans for facility improvements. The planned capacity of 5.14 MGD is substantially higher than the potential wastewater capacity required. Table 6 indicates the capacity requirement for Phase I to the year 2000 and for Phase II to approximately 2010 for the most intense development alternative - Alternative C. With the maximum business park development and the full complement of residential development, using current estimates per employee or per resident, the allocated discharge of 5.14 MGD would not be exceeded.

*At 2.5 persons per unit, 18 persons per acre is equivalent to a density of 7.2 dwelling units per gross acre.

TABLE 6

MAXIMUM WASTEWATER TREATMENT
CAPACITY REQUIREMENT

(Alternative C = max. Business Park Development)

	<u>Proposed Development</u>	<u># of Employees or residents</u>	<u>Required Capacity</u>
PHASE I (to 2000)			
o <u>Business Park*</u>			
North Subarea	1,060,000 sq.ft.	4,240	
Southwest Subarea	1,350,000 sq.ft.	5,400	
Southeast Subarea (Hope)	288,300 sq.ft.	1,153	
- Subtotal	<u>2,698,300 sq.ft.</u>	<u>10,793</u>	= 1.30 MGD
o <u>Residential**</u>			
Fairway Glen	1,219 units	3,048	
Southeast	<u>1,819 units</u>	<u>4,547</u>	
- Subtotal	3,038 units	7,595	= 0.53 MGD
- Total PHASE I			1.83 MGD
PHASE II (to 2010)			
o <u>Business Park*</u>			
North Subarea	4,000,000 sq.ft.	16,000	= 1.92 MGD
- Total PHASE I and PHASE II			3.75 MGD

* Assuming 250 sq.ft. per employee and 120 gallons per day per employee.

** Assuming 2.5 persons per household and 70 gallons per day per person.

PG&E POWER LINE RELOCATION

In order to assess the potential to improve the development value of the North and Southwest Subareas, the consulting team has investigated the possible relocation of the existing PG&E lines as indicated on Figures 3,4,5,6 and 9. The proposed relocation will involve the setting of 22 towers and the stringing of approximately 8,200 lineal feet of cable. The point of connections at the southern end will be adjacent to the existing residential neighborhood in the vicinity of the water storage tanks. The point of connection at the northern end will be outside the Study Area on the north side of Highway 237.

Costs of Relocation

The cost estimates for moving the power lines range from \$1.5 million to \$2.96 million. These costs have been included in the predevelopment costs associated with the development of the two subareas involved.

Benefits of Relocation

The benefits associated with the power line relocation are not directly measureable in dollars. Still the relocation has two major direct effects. First it permits an increase in the area for sanitary landfill available in the North Subarea. And second, it improves the amenity value of the parcels adjacent to San Tomas Creek and permits the proposed development to take advantage of the visual resource of the creekside open space.

Increased Landfill

At present, the sanitary landfill operations are constrained by the power lines due to P.U.C. requirements for required clearance beneath the low point of the catenary. In moving the lines to the top of the existing landfill adjacent to the Southern Pacific Railroad right-of-way, the city will gain approximately 24.4 acres of useable landfill area.* At the present rate of fill operations, this increase amounts to approximately 3.7 years of landfill operation.

Improved Appearance and Land Use

While the present location of the power lines do not preclude adjacent development it is impossible to locate any buildings directly beneath them. In an effort to create a marketable, pedestrian-oriented environment for the proposed development it is essential that development be clustered tightly enough so that the service and specialty retail can be supported by the major proposed land uses: arena, convention center, and/or business park. The relocation of the power lines will facilitate this clustering centrally between major land uses.

*This area has been included in the calculations for landfill operations both in the existing management plan and for those proposed in this land use study.

Estimated Pre-Development Costs

The major share of pre-development costs, i.e. those costs that are associated with providing infrastructure capacity to support the proposed land uses, are usually born by the individual developer. On-site improvements such as sanitary sewer lines, underground storm water systems, etc. are ordinarily seen as development costs.

Some costs associated with the development of individual sites however are more efficiently concentrated in a single location, but the benefits accrue to a larger community. One example of these costs can be the construction of a storm water detention basin that serves more than a single parcel. A second example is the improvement to the area's roadway system that improves access to the entire neighborhood or even adjacent communities.

The estimates for the pre-development costs associated with the Guadalupe West Study Area fall into both of these categories. There are a number of ways to distribute these costs; both over a larger area or over a longer time period. The consultant team has been scrupulous to keep these different costs separated so that their relative significance can be assessed but also so that more options for financing these costs can be explored.

Tables 7 and 8 summarize the estimated pre-development costs (not including building, parking, or landscaping costs associated with a particular development). Appendix A includes an itemized breakdown of these costs for each subarea in 1981 dollars. The total site preparation costs identified in Table 7 are generally those costs necessary to provide utility infrastructure and public amenities. They are subdivided into phase I and phase II development and also by subarea and alternative land use.

The infrastructure costs include the on-site provision of:

- o streets,
- o sanitary sewer,
- o water supply,
- o PG&E power line relocation, and
- o storm drainage system.

The public amenities costs include:

- o street right-of-way landscaping,
- o construction of pedestrian bridges necessary to provide the necessary interconnection of proposed land uses,
- o construction of the pedestrian tunnel beneath Tasman Drive at the proposed transit location,
- o landscaping of the levee embankments along San Tomas Creek and Guadalupe River, and
- o landscaping of the Hetch-Hetchy trail right-of-way.

The costs included in Table 7 are first, costs for construction, not maintenance of these improvements. For a discussion of the maintenance costs of these improvements, please see the companion Economic Evaluation. All of the costs (except as noted) included in Table 7 have been incorporated into the developers' cost projections to determine potential financial return. None of these costs are expected to fall directly on the city.

Table 8, Areawide Circulation Improvements, represents costs associated with major alterations to the existing roadway system that are necessary to accommodate the projected traffic in some of the development alternatives. The city has a number of options available to distribute these costs. Since Cal Trans has removed Highway 237 from the State Freeway Plan, it may fall directly to the communities within Santa Clara County to provide the financing mechanisms for these improvements. One of the more promising options is the creation of an assessment district. A fuller discussion of this option and its implications is included in the companion Economic Evaluation.

TABLE 7

TOTAL SITE PREPARATION COSTS (in thousands of 1981 dollars)

	<u>Infrastructure</u>	<u>Public Amenities</u>	<u>Total (range)</u>
o <u>PHASE 1</u>			
NORTHERN SUBAREA			
Alternative A	7,144	1,630 - 1,756	8,764 - 8,900
Alternative B	4,556 - 4,630	1,010 - 1,462	5,566 - 6,092
Alternative C	4,556 - 4,630	1,010 - 1,462	5,566 - 6,092
SOUTHWEST SUBAREA	5,062	1,217 - 1,735	6,279 - 6,797
FAIRWAY GLEN SUBAREA	7,063	1,522 - 2,073	8,585 - 9,136
SOUTHEAST SUBAREAS*	300 - 1,300	0 - 860	1,160 - 1,300
o <u>PHASE 2</u>			
NORTHERN SUBAREA			
Option 1	916	221 - 338	1,137 - 1,254
Option 2	1,254	0 - 354	1,254 - 1,608
Option 3	936	296 - 427	1,232 - 1,363

* These costs represent necessary improvements to the Fairway Glen Subarea that are due to overland storm flow from the southeast Subareas and neighborhoods further south. Since they are costs not directly resulting from development of Fairway Glen, they are not included as developer's costs in the economic assessment. It is recommended that some equitable sharing of these costs be distributed over a larger area, perhaps, by means of an assessment district.

TABLE 8
AREAWIDE CIRCULATION IMPROVEMENT COSTS
(in thousands of 1981 dollars)

	<u>Quantity</u>	<u>Unit Price</u> <u>(\$)</u>	<u>Total</u> <u>(\$)</u>
o <u>TASMAN RIVER BRIDGE*</u>			2,496,000
o <u>HIGHWAY 237**</u>			
GREAT AMERICA INTERCHANGE			
Sign and signal modification			50,000
Bridge			1,472,000
Ramps			1,325,520
Fill	71,000 c.y.		<u>568,000</u>
Subtotal			3,415,520
LAFAYETTE GRADE SEPARATION (237 over R.R. and Lafayette)			
Bridge			1,840,000
Fill	173,000 c.y.		<u>1,384,000</u>
Subtotal			3,224,000
Freeway Widening (within study area)			
4 lane cross-section	4400 LF	550/LF	2,420,000
Additional lanes	8000 LF	100/LF	<u>800,000</u>
Subtotal			2,420,000
TOTAL			11,555,520

* The estimate for the bridge construction is for the total cost. It is anticipated that the city of Santa Clara and the city of San Jose will jointly share this cost.

** The estimates for improvements to Highway 237 are predicted on a joint powers agreement among cities along the Highway route. It is expected that the estimates could rise substantially in the event Cal Trans became the principal source of funds and head agency in the construction of the improvements.

V. ASSESSMENT OF ALTERNATIVES

ECONOMIC ASSESSMENT

The economic assessment of the alternative land uses for the Study Area is made with respect to three criteria:

- Market Opportunity
- Financial and Fiscal Implications
- Implementation

The broad range of development opportunities evaluated, represented by the alternative land use plans in this report, has resulted in a complex set of calculations. These calculations are meant to assess the immediate and long term financial viability of the different land uses and to provide the city with a map to guide the development decisions through a moderate to long term future.

Since the city is the primary land owner in the Study Area, it is natural that the city will take a very strong role in effecting developments that it finds in its own best interest. But since development is by and large a partnership between the public and private sector, it is also natural to expect the private sector to play a significant role.

The consultant team is presenting two separate documents to the city at this time. This document is the "Detailed Assessment of Development Alternatives" and included in this section is a generalized description of the scope of the economic evaluation and some major recommendations. A companion document Volume 3 entitled "Economic Evaluation of Alternative Development Programs" has been prepared by Economics Research Associates. It is recommended that this second document be viewed as a confidential report to the city. The judgments regarding value of particular land uses or particular properties should be seen as a financial evaluation of alternative development scenarios. In order to protect the city's interests during future negotiations with developers, this road map should be kept confidential.

Market Opportunity

The market phase provides alternative program refinement particularly as influenced by absorption over time. Overall development absorption varies with the scale and mix of land uses proposed in the alternative schemes. Three program alternatives are evaluated reflecting the general market parameters outlined in the Preliminary Assessment completed by ERA, "Market Analysis: Overview of Potential Land Uses," and included in the appendix of the first report on the Study Area: "Preliminary Assessment."

Based on this market refinement, the only major difference is narrowing the range of potential hotel room development based on the inclusion of a convention center complex. The distribution of proposed land use within each of the Study Area subareas is shown in Table 2 in Section II, Land Use Alternatives.

A major recommendation of the market assessment is that the neighborhood convenience retail will need to attract patronage from the potential employees within the business park development as well as the existing and proposed residential development. For this reason, the land use plan for the Southwest Subarea has been modified to include an alternative location for convenience retail adjacent to Lafayette Street. See Figure 9. In this location, the retail will still be convenient to residents with automobile access to the eastern half of the Study Area and also convenient to employees by means of pedestrian access.

Financial and Fiscal Implications

In addition to the market absorption of private sector development at Guadalupe West, an economic evaluation must consider the municipal revenues and costs generated by these uses as well as the public facilities considered, i.e. the golf course. This section of the economic assessment examines both capital and operating considerations generated by public and private uses from a municipal fiscal perspective.

Role of the City

The alternative roles that have been evaluated include:

- The city as developer and owner of the major public facilities, including the arena, convention center, museum, and golf course.
- Private development of the major public facilities, including the arena, convention center, and museum, with the city acting as a long term lease holder of the land.
- Private development of the major public facilities, as above, but with the city selling the land.

Other Revenue

In addition to these major alternative roles for the city, a number of other revenue sources are evaluated including:

- Land leases on the hotel development sites;
- Municipal tax revenue associated with property and sales tax; and
- Potential revenue from land sale of particular parcels.

Cost of Services

The costs associated with the required infrastructure improvements have been calculated as development costs in the financial assessment of the various land use alternatives. Some of these costs however, can be reasonably attributed to a larger area than the proposed new development. For example, some of the storm drainage improvement costs are directly attributable to the 100 year storm overland flow from areas off-site of the Study Area. In addition, areawide circulation improvements such as the proposed Tasman Drive bridge over the Guadalupe River and the proposed improvements to Highway 237 can be reasonably spread over a larger assessment district.

Other on-going services such as police and fire protection, and schools, can be directly attributed to the proposed development within the Study Area. These costs are assessed to determine if the various land use alternatives can pay their own way.

Implementation

In addition to the potential for land sales and lease agreements, the city has a number of implementation tools from which to draw to effect the adopted development strategy. These include primarily the creation of assessment districts to spread the costs for some of the required infrastructure improvements and the use of tax increment financing. Both of these tools are evaluated for application within the Study Area.

Summary of Economic Implications

While the economic implications of each of the development alternatives will not be the only criteria for making land use decisions in the Study Area, they critically underpin the entire evaluation. The major conclusions that are documented in the companion "Economic Evaluation of Alternative Development Programs" are outlined here.

Market Conclusions

The market analysis concludes that the land uses shown in Table 2 for the North, Southwest and Fairway Glen Subareas are feasible and (excluding phase II) capable of being attracted to the site by the year 2000.

- Hotel Potential: As a result of on-site public development in Alternative A and B, a market opportunity for 300 rooms in 1983 with a total of 800 rooms by 1995; with Alternative C, a market opportunity for 300 rooms in 1983 but only 600 rooms by 1995.
- Business Park Potential: The proposed program for the Southwest Subarea as well as the additional square footage in Alternative B could be absorbed by 1986. The more extensive Alternative C would be absorbed by 1989. However, the pure business park or mixed use

development included in phase II in the northern portion of the North Subarea would require up to 30 years to be fully absorbed.

- Residential Support: Conservatively, 2,300 residential units could be absorbed between 1983 and 1990.
- Retail Potential: Up to 150,000 square feet of retail space could be feasible by 2000 and predominantly convenience-oriented although specialty retail will dominate initially as the visitor serving facilities are built.

Financial Conclusions

The major choice facing the city in selecting a development strategy is selecting which public goods to support with the potential revenue from the Study Area. The financial assessment concludes first, that there are sufficient revenues from both the sale and lease options to support the public facilities in both Alternatives A and B. Second, it is clearly advantageous to the city to find a private developer/operator to provide all the public facilities but the golf course with no need to direct revenues to support these public benefits. And third, the particular configuration of land sales or long-term lease agreements provides different advantages to the city that must be assessed from a public policy perspective. But overall, the land sale approach is not recommended as it minimizes the city's long-term assets with only a marginal savings in tax assessment rate.

Fiscal Conclusions

The potential on-going revenue from the land uses shown in Table 2 are sufficient to support municipal services. If however, the city chose to become a developer of the public facilities identified in Alternatives A and B through public revenue bonds, municipal debt could exceed \$6 million annually and exhaust the potential net tax revenue stream.

Areawide improvements in circulation that include the Tasman Drive bridge across the Guadalupe River and the upgrading of Highway 237 represent costs that should not be borne exclusively by development on the Guadalupe West Study Area. It is reasonable to expect the City of San Jose to share in the improvements to Tasman Drive, and improvements to Highway 237 should be borne by all adjacent communities and perhaps the state as well.

APPENDIX A

ITEMIZED COST ESTIMATES FOR THE SITE IMPROVEMENT COSTS ASSOCIATED WITH THE LAND USE ALTERNATIVES

(Note: These cost estimates are in 1981 dollars.)

PHASE I
NORTHERN SUBAREA, ALTERNATIVE A

	<u>Quantity</u>	<u>Unit Price</u> <u>(\$)</u>	<u>Total</u> <u>(\$)</u>
o <u>INFRASTRUCTURE</u>			
STREETS (Phase I only)			
Major Streets	5200 LF	360/LF	1,872,000
Minor Streets	1600 LF	260/LF	416,000
Vehicle Bridges	2	539,000 Ea	1,078,000
Subtotal			3,366,000
SANITARY SEWER (Phase I only)			
10" V.C.P.	1750 LF	34/LF	59,500
8" V.C.P.	1950 LF	27/LF	52,650
Manholes	12	2000 Ea	24,000
Subtotal			135,650
WATER			
10"	6,550 LF	38/LF	248,900
8"	1950 LF	27/LF	52,650
Fire Hydrants	20	2500/Ea	50,000
Subtotal			351,550
PG&E POWER RELOCATION (69% Share)			
Towers	15.18	60,000 Ea	910,800
Cable	5,658 LF	200/LF	506,760
Subtotal			2,042,400
STORM DRAIN SYSTEM (Phase I & II/No retention on west side of Lafayette)			
- 10 year underground for west side of Lafayette;			
- 100 year underground for parcel between Great America and San Tomas Creek;			
- 100 year overland flow to eastside basin			
15" RCP	1160 LF	27/LF	31,320
18" RCP	1350 LF	30/LF	40,500
21" RCP	2520 LF	34/LF	85,680
24" RCP	1230 LF	38/LF	46,740
27" RCP	1600 LF	41/LF	65,600
30" RCP	350 LF	46/LF	16,100
36" RCP	240 LF	57/LF	13,680
42" RCP	300 LF	75/LF	22,500
48" RCP	2110 LF	88/LF	185,680
Jack & Bore 48" under Lafayette	300 LF	500/LF	150,000
Jack & Bore 24" through Guadalupe Levee	250 LF	450/LF	112,500
Manholes	30	2000/Ea	60,000
Inlets	26	1000/Ea	26,000
Subtotal			856,300

PHASE I
NORTHERN SUBAREA, ALTERNATIVE A (Continued)

	<u>Quantity</u>	<u>Unit Price</u> <u>(\$)</u>	<u>Total</u> <u>(\$)</u>
<u>INFRASTRUCTURE (Continued)</u>			
- 10 year underground for Arena site with pump station and pumping into San Tomas Creek.			
- 100 year retained in parking area until pumped.			
15" RCP	1550 LF	27/L.F.	41,850
30" RCP	50 LF	46/L.F.	2,300
Manholes	6	2000 Ea	12,000
Inlets	6	1000 Ea	6,000
10 CFS Pump Station		Lump Sum	<u>150,000</u>
Subtotal			212,150
- Expansion of East Side Retention Basin for 30 ac.ft. additional storage.			
	30 ac.ft.	6000/ac.ft.	180,000
Storm Drain System Subtotal			1,248,450
TOTAL INFRASTRUCTURE			
Streets			3,366,000
Sanitary Sewer			135,650
Water			351,550
PG&E Relocation			2,042,400
Storm Drain System			<u>1,248,450</u>
			7,144,050

PHASE I

NORTHERN SUBAREA, ALTERNATIVE A (Continued)

	<u>Quantity</u>	<u>Unit Price</u> <u>(\$)</u>	<u>Total</u> <u>(\$)</u> (range)
o <u>PUBLIC AMENITIES</u>			
STREET LANDSCAPING (20 foot ROW)	136K SF	2.50-3.50/SF	340,000 - 476,000
PEDESTRIAN BRIDGES	7	165,000 Ea	1,125,000
PEDESTRIAN TUNNEL (50% share)	1	Lump Sum	125,000
TOTAL			1,620,000-1,756,000

PHASE I
NORTHERN SUBAREA, ALTERNATIVE B & C

	<u>Quantity</u>	<u>Unit Price</u> <u>(\$)</u>	<u>Total</u> <u>(\$)</u>
o <u>INFRASTRUCTURE</u>			
STREETS			
Major Streets	2600	360/LF	936,000
Subtotal			<u>936,000</u>
SANITARY SEWER			
10" VCP	1750 LF	34/LF	59,500
8" VCP	1950 LF	27/LF	52,650
Manholes	12	2000/Ea	24,000
Subtotal			<u>135,650</u>
WATER			
10"	6,500 LF	38/LF	248,900
8"	1,950 LF	27/LF	52,650
Fire Hydrants	20	2500	50,000
Subtotal			<u>351,550</u>
PG&E LOCATION (69% share)			
Towers	15.18	60,000 Ea	910,800
Cable	5658 LF	200/LF	506,760
Subtotal			<u>2,042,400</u>
STORM DRAINAGE SYSTEM (Phase I and II/with retention on westside of Lafayette)			
- 10 year underground and 100 year overland flow to eastside and westside basins excluding convention center site.			
- Westside basin pumped to eastside basin.			
21" RCP	1350 LF	34/LF	45,900
24" RCP	1250 LF	38/LF	37,500
27" RCP	2075 LF	41/LF	85,075
30" RCP	1530 LF	46/LF	70,380
36" RCP	150 LF	57/LF	8,550
Jack & Bore 24" through Levee	250 LF	450/LF	112,500
Manholes	20	2000/Ea	40,000
Inlets	15	1000/Ea	15,000
Pond Excavation	17.25 ac.ft.	6000/ac.ft.	105,030
50 cfs Pump Station	1	Lump Sum	285,000
24" Pump Line	2500 LF	38/LF	95,000
Jack & Bore under Lafayette	100 LF	450/LF	45,000
Subtotal			<u>945,935</u>

PHASE I
NORTHERN SUBAREA, ALTERNATIVE B & C (Continued)

		<u>Quantity</u>	<u>Unit Price</u> <u>(\$)</u>	<u>Total</u> <u>(\$)</u>	
STORM DRAIN SYSTEMS (Continued)					
-	10 year underground system for convention center site with:				
a)	separate pump station to San Tomas Creek, or				
b)	siphon under San Tomas Creek to new west side basin and pumped to east side basin, or				
c)	separate pump station to San Tomas Creek and west side basin pumped to San Tomas Creek.				
	a)	15" RCP	1550 LF	27/LF	41,850
		30" RCP	50 LF	46/LF	2,300
		10 cfs pump station	1	Lump Sum	150,000
		Manholes	5	2000 Ea	10,000
		Inlets	5	1000 Ea	5,000
		Subtotal			209,150
or	b)	15" RCP	1550 LF	27/LF	41,850
		30" RCP	1650 LF	46/LF	75,900
		Increased Westside Pond	6.95 ac.ft.	6000/ac.ft.	41,700
		Manholes	9	2000 Ea	18,000
		Inlets	5	1000 Ea	5,000
		Subtotal			182,450
or	c)	Shorter 24" pump line under Lafayette	-1350 LF	38/LF	-51,300
		Shorter Jack & Bore under Lafayette	-50 LF	450/LF	-22,500
		Jack & Bore through San Tomas Levee			
		15" RCP	1550 LF	27/LF	41,850
		30" RCP	50 LF	46/LF	2,300
		10 cfs Pump Station	1	Lump Sum	150,000
		Manholes	5	2000 Ea	10,000
		Inlets	5	1000 Ea	5,000
		Subtotal			135,350
TOTAL INFRASTRUCTURE					
	Streets			(range)	
	Sanitary Sewer			936,000	
	Water			135,650	
	PG&E Relocation			351,550	
	Storm Drain System			2,042,400	
				1,090,285-1,164,085	
				4,555,885-4,629,685	

PHASE I
NORTHERN SUBAREA, ALTERNATIVE B & C (Continued)

	<u>Quantity</u>	<u>Unit Price</u> <u>(\$)</u>	<u>Total</u> <u>(\$)</u> <u>(range)</u>
o <u>PUBLIC AMENITIES</u>			
STREET LANDSCAPING (20 foot ROW)	52K SF	2.50-3.50/SF	130,000 - 182,000
PEDESTRIAN BRIDGES	7	165,000 Ea	1,155,000
PEDESTRIAN TUNNEL (50% share)	1	Lump Sum	125,000
TOTAL - PUBLIC AMENITIES			1,010,000 - 1,462,000

PHASE II
NORTHERN SUBAREA, OPTION 1

	<u>Quantity</u>	<u>Unit Price</u> <u>(\$)</u>	<u>Total</u> <u>(\$)</u>
o <u>INFRASTRUCTURE</u>			
STREETS			
Minor Streets	2900 LF	260/LF	<u>754,000</u>
Subtotal			<u>754,000</u>
SANITARY SEWER			
10" VCP	1950 LF	34/LF	66,300
8" VCP	2050 LF	27/LF	55,350
Manholes	10	2000 Ea	<u>20,000</u>
Subtotal			<u>141,650</u>
WATER			
10"			
8"			
Fire Hydrants			
Subtotal			<u>20,000</u>
STORM DRAIN SYSTEM (included in Phase I)			
TOTAL - INFRASTRUCTURE			
Streets			754,000
Sanitary Sewer			141,650
Water			<u>20,000</u>
			<u>915,650</u>

PHASE II
NORTHERN SUBAREA, OPTION 2

	<u>Quantity</u>	<u>Unit Price</u> <u>(\$)</u>	<u>Total</u> <u>(\$)</u>
o <u>INFRASTRUCTURE</u>			
STREETS			
Minor Streets	3725 LF	260/LF	969,000
Subtotal			<u>969,000</u>
SANITARY SEWER			
10" VCP	1750 LF	34/LF	59,500
8" VCP	3050 LF	27/LF	82,350
Manholes	12	2000 Ea	24,000
Subtotal			<u>165,850</u>
WATER			
8"	3975	27/LF	107,325
Fire Hydrants	5	2500 Ea	12,500
Subtotal			<u>119,825</u>
STORM DRAIN SYSTEM (included in Phase I)			
TOTAL - INFRASTRUCTURE			
Streets			969,000
Sanitary Sewer			165,850
Water			<u>119,825</u>
			<u>1,254,675</u>

PHASE II
NORTHERN SUBAREA, OPTION 3

	<u>Quantity</u>	<u>Unit Price</u> <u>(\$)</u>	<u>Total</u> <u>(\$)</u>
o <u>INFRASTRUCTURE</u>			
STREETS			
Minor Streets	3600 LF	260/LF	<u>936,000</u>
Subtotal			<u>936,000</u>

PHASE I
SOUTHWEST SUBAREA

	<u>Quantity</u>	<u>Unit Price</u> <u>(\$)</u>	<u>Total</u> <u>(\$)</u>
o <u>INFRASTRUCTURE</u>			
STREETS			
Major Streets	4600 LF	360/LF	1,656,000
Minor Streets	1200 LF	260/LF	312,000
Subtotal			<u>1,968,000</u>
SANITARY SEWER			
8" V.C.P.	3650 LF	27/LF	98,550
10" V.C.P.	900 LF	34/LF	30,600
Manholes	15 Ea	2,000/Ea	30,000
Subtotal			<u>159,150</u>
WATER			
8"	1650 LF	27/LF	44,550
12	4150 LF	52/LF	215,800
Fire Hydrants	14 Ea	2,500/Ea	35,000
Subtotal			<u>295,350</u>
PG&E POWER RELOCATION (31% Share)			
Towers	6.82 Ea	60,000/Ea	409,200
Cable	2542 LF	200/LF	508,400
Subtotal			<u>917,600</u>
STORM DRAIN SYSTEM			
Collector System			
36" RCP	1450 LF	57/LF	82,650
66" RCP	1600 LF	110/LF	176,000
Manholes	12 Ea	2000/Ea	24,000
Inlets	8 Ea	1000/Ea	8,000
Siphon	1 Ea	Lump Sum	30,000
Subtotal			<u>320,650</u>
Storage System			
54" RCP	450 LF	95/LF	42,750
Pond Excavation	30 ac.ft.	6,000/ac.ft.	180,000
100 cfs Pump Station	1	Lump Sum	550,000
Subtotal			<u>772,750</u>
Overland Flow			
36" RCP	5100 LF	57/LF	290,700
Gate & Structure	1	Lump Sum	100,000
Open Channel Exc	12,600 C.Y.	5/C.Y.	63,000
Jack/Bore Crossing	350 LF	500/LF	175,000
Subtotal			<u>628,700</u>
TOTAL INFRASTRUCTURE			5,062,200

PHASE I
SOUTHWEST SUBAREA (Continued)

	<u>Quantity</u>	<u>Unit Price</u> <u>(\$)</u>	<u>Total</u> <u>(\$)</u> <u>(range)</u>
o <u>PUBLIC AMENITIES</u>			
STREET LANDSCAPING (20 foot ROW)	116,000 SF	2.50 -3.50	290,000 - 406,000
EMBARKMENT LANDSCAPING	102,000 SF	2.50-3.50	255,000 - 357,000
HETCH-HETCHY TRAIL IMPROVEMENTS	102,000 SF	2.50-3.50	672,000 - 942,000
PEDESTRIAN TUNNEL (50% share)		Lump Sum	130,000
TOTAL PUBLIC AMENITIES			1,217,000 - 1,735,000

PHASE 1
FAIRWAY GLEN SUBAREA

	<u>Quantity</u>	<u>Unit Price (\$)</u>	<u>Total (\$)</u>
o INFRASTRUCTURE			
STREETS			
Major Streets	8,150 L.F.	360/L.F.	2,934,000
Minor Streets	7,610 L.F.	260/L.F.	1,978,000
Subtotal			4,912,600
SANITARY SEWER			
15" V.C.P.	650 L.F.	55/L.F.	35,750
12" V.C.P.	1,490 L.F.	42/L.F.	62,580
10" V.C.P.	700 L.F.	34/L.F.	23,800
8" V.C.P.	14,240 L.F.	27/L.F.	384,480
Manholes	48	2,000/Ea	96,000
1.2 MGD lift station	1	lump sum	200,000
Subtotal			802,610
WATER			
8"	7,610 L.F.	27/L.F.	205,470
10"	3,750 L.F.	38/L.F.	142,500
12"	6,500 L.F.	52/L.F.	338,000
Fire Hydrants	36	2,500/Ea	90,000
Subtotal			775,970
STORM DRAIN SYSTEM			
21" RCP	600 L.F.	34/L.F.	20,400
24" RCP	230 L.F.	38/L.F.	8,740
27" RCP	2,600 L.F.	41/L.F.	106,600
36" RCP	1,200 L.F.	57/L.F.	68,400
42" RCP	280 L.F.	75/L.F.	21,000
48" RCP	400 L.F.	88/L.F.	35,200
Manholes	20	2,000/Ea	40,000
Inlets	15	1,000/Ea	15,000
Pond Excavation	11 ac.ft.	6,000/ac.ft.	66,000
20 cfs Pump Station	1	lump sum	190,000
Subtotal			571,340
TOTAL INFRASTRUCTURE			
Streets			4,912,600
Sanitary Sewer			802,610
Water			775,970
Storm Drain System			571,340
			7,062,520

PHASE I

FAIRWAY GLEN SUBAREA

	<u>Quantity</u>	<u>Unit Price</u> <u>(\$)</u>	<u>Total</u> <u>(\$)</u> <u>(range)</u>
o Public Amenities			
Street Landscaping (20 foot R.O.W.)	174,240 S.F.	2.50-3.50	435,600 - 609,800
Guadalupe River Landscaping (30 foot R.O.W.)	120,000 S.F.	2.50-3.50	300,000 - 420,000
Hetch-Hetchy Trail Improvements	256,130 S.F.	2.50-3.50	640,000 - 896,000
Pedestrian Overpass	1	lump sum	<u>147,000</u>
Total Public Amenities			1,522,000 - 2,073,000

PHASE I

SOUTHEAST SUBAREA (Note: These costs are for necessary improvements at the Fairway Glen site to accommodate storm water overland flow from the southeast)

	<u>Quantity</u>	<u>Unit Price</u> <u>(\$)</u>	<u>Total</u> <u>(\$)</u> <u>(range)</u>
o Infrastructure (This does not include improvements on the south-east subarea properties)			
Storm Drain System			
- 10 year flood contained on site			
- 100 year overflow to Fairway Glen golf course			
- Permanent solution for 100 year overflow with:			
a) 40' wide open channel adjacent to the Guadalupe River and pipe under Tasman Road to existing east side drainage channel and basin; or		lump sum	300,000
b) Underground pipe adjacent to Guadalupe River through Fairway Glen and under Tasman Road		lump sum	1,300,000
o Public Amenities (This does not include improvements on the south-east subarea properties)			
Storm Drain Channel Landscaping (40'R.O.W.) (if open channel is utilized)	160,000 S.F.	2.50-3.50	400,000 - 560,000

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